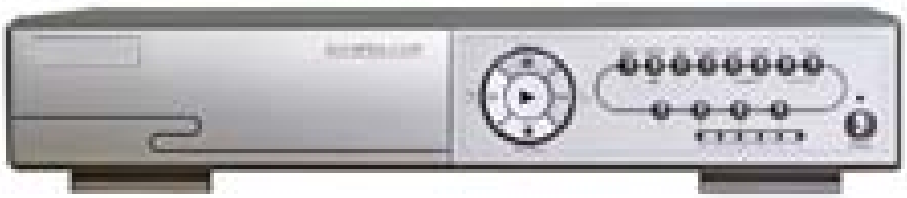
4 CH MPEG-4 DVR



User's Manual

Please read instructions thoroughly before operation and retain it for future reference.
The image shown above may differ from the actual product appearance.

IMPORTANT SAFEGUARD

CAUTION

RISK OF ELECTRIC SHOCK

CAUTION:
To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.

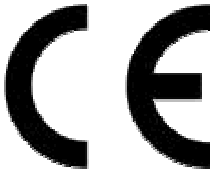
Only operate this apparatus from the type of power source indicated on the label.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CE Mark

This apparatus is manufactured to comply with the radio interference requirements.



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Note: Version: 1052-09-I4-04-AA-11; 0038

Note: Any changes of AP, please refer to your distributor.

Note: Any changes of this manual are subject to the actual product without further notification.

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1.1 FEATURES

MPEG4 DVR Technology

- Compression format provides crystal clear image with real time performance

Multiplex

- Allows live display, record, playback, backup, and network at the same time

Long-Recording Hours:

- 500GB can record more than 18 days. (4CH, Frame Best Quality, 30IPS)

Backup Function:

- Backup files with USB memory stick (For Model 1) and network remote recording & backup

Remote Surveillance:

- Remote surveillance with licensed software AP and IE browser
  Web surveillance supports 5 users simultaneously

Intelligent Motion Trigger Recording:

- With advanced motion detection function, scheduled motion detection recording (4 different adjustable factors for motion detection sensitivity) and convenient search function, customized security environment is achieved
- Alarm trigger recording will send alert with images to designated e-mail and FTP address
- Supports pre-alarm recording (8MB)

Covert Recording:

- A mask replaces the live image with a blank screen & the monitor shows nothing but recording is still on

A/V Support:

- Supports 2 audio-in, 1 audio-out to record sounds (Model 1)
  Supports 1 audio-in, 1 audio-out to record sounds (Model 2)
- Supports VGA output to monitor (optional)

General:

- Support multi-language OSD
- System auto recovery after power reconnected
- Support daylight saving function
- Support manual / timer / motion / alarm / remote recording functions
- Watermark function ensures authentication of recorded images
- Support TCP/IP, PPPoE, DHCP and DDNS network connection

1.2 PACKAGE CONTENTS

Digital Video Recorder

Adapter
(with two converters: EU & UK)

Licensed Software AP

Accessories Pack

Accessories Pack

Manual & Quick Start

NOTE: Please check the package contents to make sure that you receive all accessories shown above.
NOTE: The images shown on this page may differ from the actual product appearances.

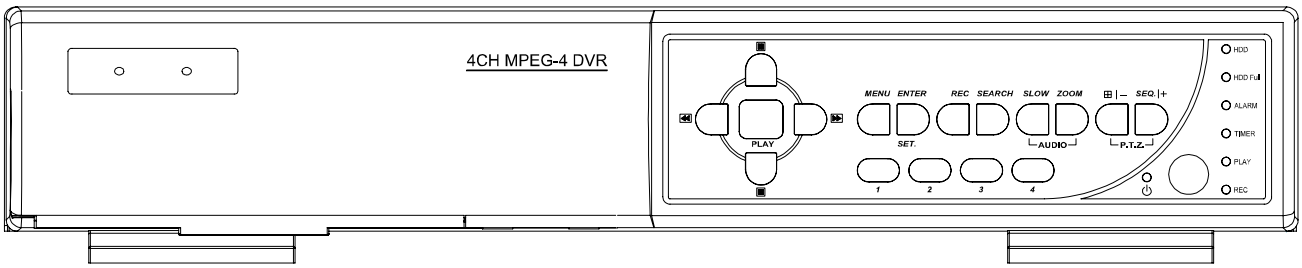
1.3 SPECIFICATION

	Model 1	Model 2
Video System	NTSC / PAL (switch able)	
Video Compression Format	Frame: MPEG 4 ; CIF: MPEG4	Frame: MJPEG ; CIF: MPEG4
Video Input	4 Channels. Composite video signal 1 Vp-p 75Ω BNC	
Video Loop Out	4 Channels. Composite video signal 1 Vp-p 75Ω BNC	
Video Output	Main Monitor Output: Composite video signal 1 Vp-p 75Ω BNC Call Monitor Output: Composite video signal 1 Vp-p 75Ω BNC	
Maximum Recording Rate	Frame: 720 × 480 pixels with 30 IPS〈NTSC〉 / 720 × 576 pixels with 25 IPS 〈PAL〉 CIF: 352 × 240 pixels with 120 IPS〈NTSC〉/ 352 × 288 pixels with 100 IPS 〈PAL〉	
Adjustable Recording Speed	Frame: 30, 15, 7, 3 IPS <NTSC> / 25, 12, 6, 3 IPS <PAL> CIF: 120, 60, 30, 15 IPS <NTSC> / 100, 50, 25, 12 IPS <PAL>	
Image Quality Setting	Best, High, Normal, and Basic	
Hard Disk Storage	IDE type, ATA66, supported HDD ＊1 , support HDD capacity over 400GB	
HDD Quick Cleaning	Quick clean up the “index system” of the recorded files. 250GB under 2 seconds	
Recording Mode	Manual／Timer／Motion／Alarm	
Watermark	Yes	
Refresh Rate	120 IPS for NTSC / 100 IPS for PAL	
Audio I/O	2 audio inputs, 1 audio output (Mono)	1 audio input, 1 audio output (Mono)
Motion Detection Area	16 × 12 grids per camera for all channels	
Motion Detect Sensitivity	4 adjustable variables with precise calculation for motion detection	
Pre-alarm Recording	Yes (8MB)	
USB Interface	Support USB 1.1/ 2.0 USB memory stick	N / A
Backup Device	Support USB 1.1/ 2.0 USB memory stick and network remote backup	Network Remote Backup

Specification Continued…	
Web Transmitting Compression Format	Motion JPEG
Ethernet	10/100 Base-T. Support remote control and live view via Ethernet
Web Interface	Support licensed software AP, and IE browser
Remote Alarm Notification	E-mail images, and images uploading to FTP site's specific account
Network Connection	Support TCP/IP, PPPoE, DHCP and DDNS functions
PTZ control	Support PELCO-D protocol
Dwell Time (Sequential Channel Switch)	Programmable with adjustable dwell time
Alarm I/O	4 inputs, 1 output
Digital Zoom	2X digital zoom (live mode)
Key Lock	Yes
Video Loss Detection	Yes
Camera Title	Support up to 6 letters
Video Adjustable	Hue／Color／Contrast／ Brightness
Date Display Format	YY/MM/DD, DD/MM/YY, MM/DD/YY, and Off
Power Source	DC 19V
Power Consumption	＜42 W
Operating Temperature	10℃ ~ 40℃ (50℉~104℉)
Dimensions (mm)	343mm (W) × 59mm (H) × 223mm (D)
System Recovery	System auto recovery after power reconnected
Optional Peripheral	**VGA connector**

- The specification of the actual product is subject to change without further notification.

1.4 FRONT PANEL



- "**LED LIGHT**" :

  HDD: HDD is reading or recording
  HDD Full: HDD is full.
  ALARM: Once the alarm is triggered
  TIMER: When timer recording is turned on
  PLAY: Under playing status
  REC: Under recording status

- "**MENU**" :
  Press "MENU" button to enter main menu.

- "**ENTER**" / "**SET**" :
  Press "ENTER" button to confirm the setting.

  Press "SET" to change channel display position.
  Press "▲▼◄►" to select the channel which you like to change.
  Press "＋" or "－" to select the channel which You would like to show.

- "**SEARCH** " :
  Press "SEARCH" button to enter the search menu.

- "**SLOW** " :
  Under playback mode, press "SLOW" button to show slow playback.

- "**ZOOM** " :
  Press "ZOOM" button to enlarge the picture of selected channel (under live mode).

- "⊞ " / " － " :
  Press " ⊞ " button to show the 4 channel display mode.
  Press " － " button to change the setting in the menu.

- “**SEQ**” / “ ＋ ” :
  Press “SEQ” button to activate the call monitor function and press “SEQ” button again to escape the call monitor mode.
  Press “＋ ” button to change the setting in the menu.

- “**POWER**” :
  Press this button to turn on / off the DVR.
  (Under recording mode, please stop record before turn off the DVR).

- “**CH1** ” “**CH2** ” “**CH3** ” “**CH4** ” :
  Press “**1** ” “**2** ” “**3** ” “**4** ” buttons to select the channel to display.

- “**REC**” :
  Press “REC” button to activate the manual recording.

- “**PLAY**” :
  Press “PLAY” button to playback the recorded files.

- “**UP** / **PAUSE** , **DOWN** / **STOP**, **LEFT** / **FAST REWIND**, **RIGHT** / **FAST FORWARD**“ :
  Press “▲▼◄►“ to move the cursor up / down / left / right.

  Under playback mode, press “ ⏸ “ button to pause playback.
  Under playback mode, press “ ■ “ button to stop playback.
  Under playback mode, press “ ◀◀ “ button to fast rewind.
  Under playback mode, press “ ▶▶ “ button to fast forward.

- “

” :

  Press these two buttons to select live or playback sounds of the 2 audio channels.

- “

” :

  Press these two buttons at the same time to enter / exit the PTZ control mode.

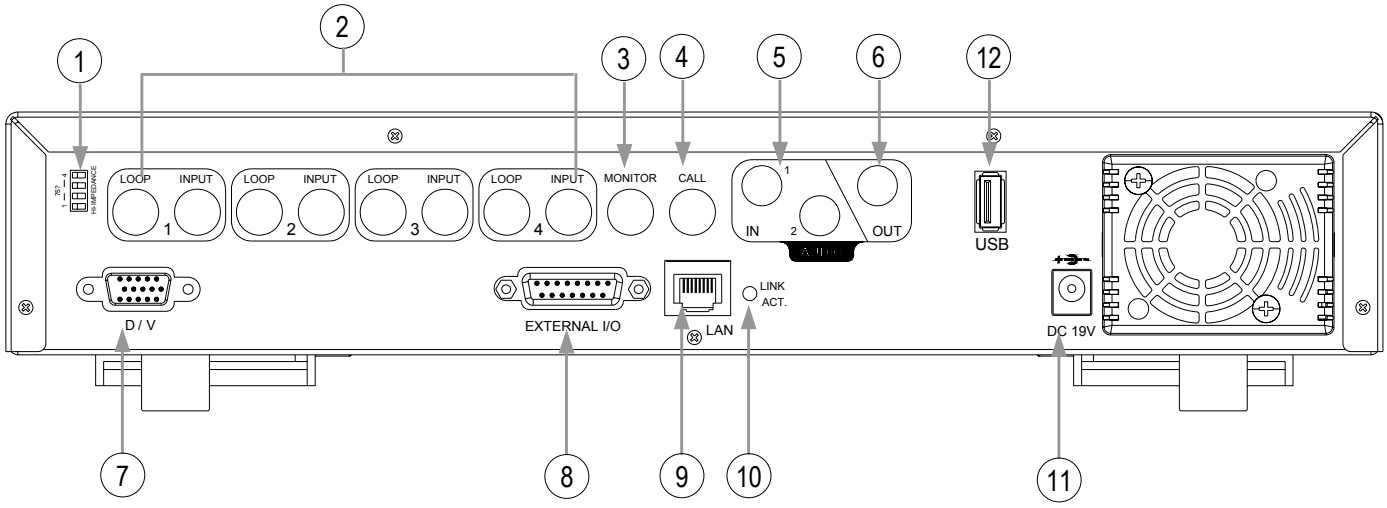
- Press “POWER” button on the DVR front panel to shutdown, and then press “POWER” + “►“ to switch to PAL system.
  (Press the buttons until the monitor show the video image of the DVR.)

- Press “POWER” button on the DVR front panel to shutdown, and then press “POWER” + “◄“ to switch to NTSC system.
  (Press the buttons until the monitor show the video image of the DVR.)

- Press “MENU” + “ENTER” buttons on the DVR front panel to key lock.

1.5 REAR PANEL

Take Model 1 as an example



1) 75Ω / HI:
When using Loop function, please switch to HI. When you don't use Loop function, please switch to 75Ω.

2) VIDEO INPUT (CHANNEL 1 - 4) :Connect to video source, such as camera.
LOOP (CHANNEL 1 - 4):Video output.

3) MONITOR:
Connect to Main monitor.

4) CALL MONITOR:
Connect to CALL monitor. Show the channel switch display. When the alarm is triggered, the call monitor will show the image of the triggered channel for a period of time.

5) AUDIO IN (two audio-in for Model 1; one audio-in for Model 2) :
Connect to audio source, such as camera which equipped with audio function.
When users start the recording function, the audio input will be recorded.

6) AUDIO OUT :
Connect to monitor or speaker.
With 1 mono audio output from the same source.

7) D/V PORT (Digital Video Port):
Connect to VGA connector card.

8) EXTERNAL I/O PORT:
Connect to external device. Control external device or controlled remotely by external device (alarm input, external alarm).

9) LAN:
Connect to Internet by LAN cable.

10) LINK / ACT LED light:
When the Internet is activated, the LED light will be on

11) POWER:
Connect to provided adapter.

12) USB (For Model 1):
Support firmware update and files backup.

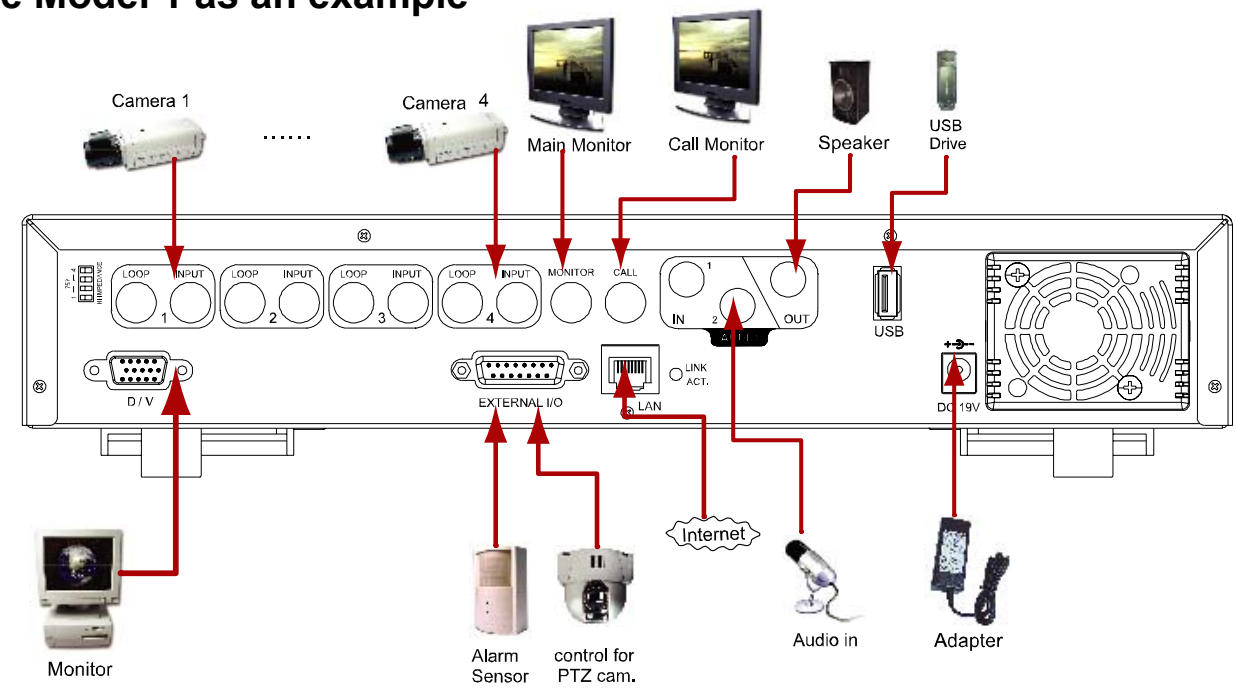
2.1 GETTING STARTED

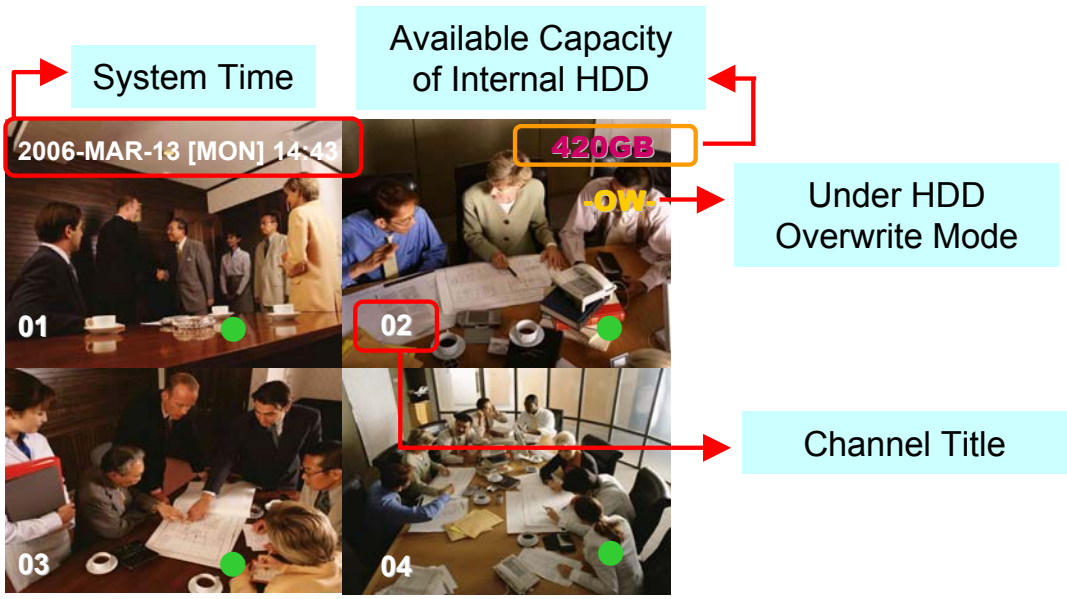
Connecting all the devices to construct a surveillance.

1) Install HDD:
   The HDD must be installed before the DVR is turned on.
2) Connect cameras.
3) Connect monitor.
4) Connect the external devices.
5) Connect the AC power cord to power adapter and plug into an electrical outlet.
   The standby LED would be on as red.
   Press the “POWER” button. The power LED will be on as red.
   It takes approximately 10 to 15 seconds to boot the system.

NOTE:
Please refer to Appendix #1 for HDD installation instructions.
NOTE:
Please refer to “Section 1.5 Rear Panel” for connection.
NOTE:
Please refer to Appendix#2 for pin configurations of the external I/O port .

Take Model 1 as an example





3.1 RECORDING

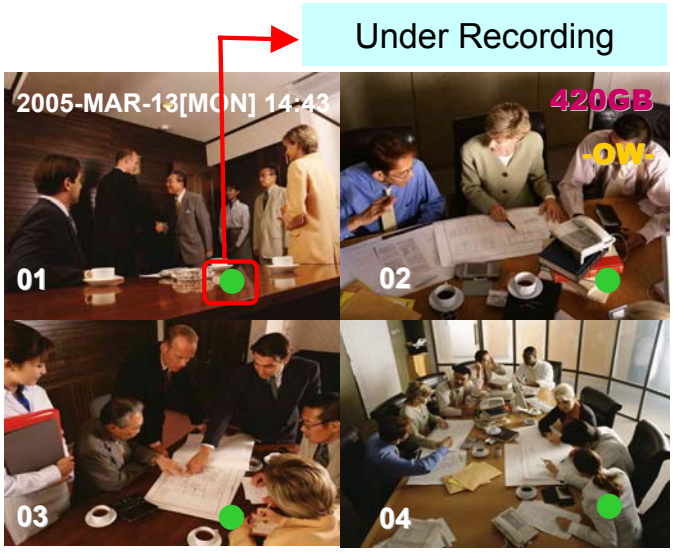
The DVR offers three recording modes, manual record, event recording, and timer record. If power is off accidentally, recorded video files will still be stored in the HDD. DVR will return to original recording status after power is on again.

1) MANUAL RECORDING (continuous recording) :
Recording is initiated by manually pressing the “REC” button.
Indicated by the sign “●”

2) EVENT RECORDING (triggered by motion and external alarm) :
When this functions is activated,
the recording is triggered by motion or external alarm.
Indicated by the sign “ ” and “ ” .

3) TIMER RECORDING (scheduled time) :
Recording is scheduled by Timer. Indicated by the sign “**TIMER RECORD**”.

NOTE :
When the HDDs are full under O/W recording mode, previous recorded files may be overwritten without further warning notices.



3.2 PLAYBACK

Press " PLAY " button, the DVR will display the last recording video.

1) FAST FORWARD (F.F.) & FAST REWIND (REW):

You can increase speed for fast forward and rewind on the DVR.
In the playback mode,

∗ Press " ▶▶ " once to get 4X speed forward and press twice to get 8X speed, … and the maximum speed is 32X.
∗ Press " ◀◀ " once to get 4X speed rewind and press twice to get 8X speed, … and the maximum speed is 32X.
∗ The type of recording image size (Frame or CIF)will also shown on the screen.

2) PAUSE / IMAGE JOG:

Press " ▮▮ " button to pause the current image displayed on the screen.
In the Pause mode,

∗ Press " ▶▶ " once to get forward by frame change.
∗ Press " ◀◀ " once to get rewind by frame change.

3) STOP:

Press " ■ " button under all circumstance, it will return DVR to live monitoring mode.

4) CHANNEL SHIFT:

∗ Display mode:
Press MODE " ⊞ " button to 4 channels display.

∗ Full Screen Switch:
Press "**1** " "**2** " "**3** " "**4** " buttons to show the full screen channels.

∗ Channel display switch:
Press "SET" to change channel display position.
Press "▲▼◀▶" to select the channel which you like to change,
Press "＋" or "－" select the channel which you like show.
Press "ENTER" button to confirm.

5) SLOW PLAYBACK:

Model 1: Press "**SLOW**" button to get 1/4X speed playback and press twice to get 1/8X.
Model 2: Press "**SLOW**" button to get 1/4X speed playback.

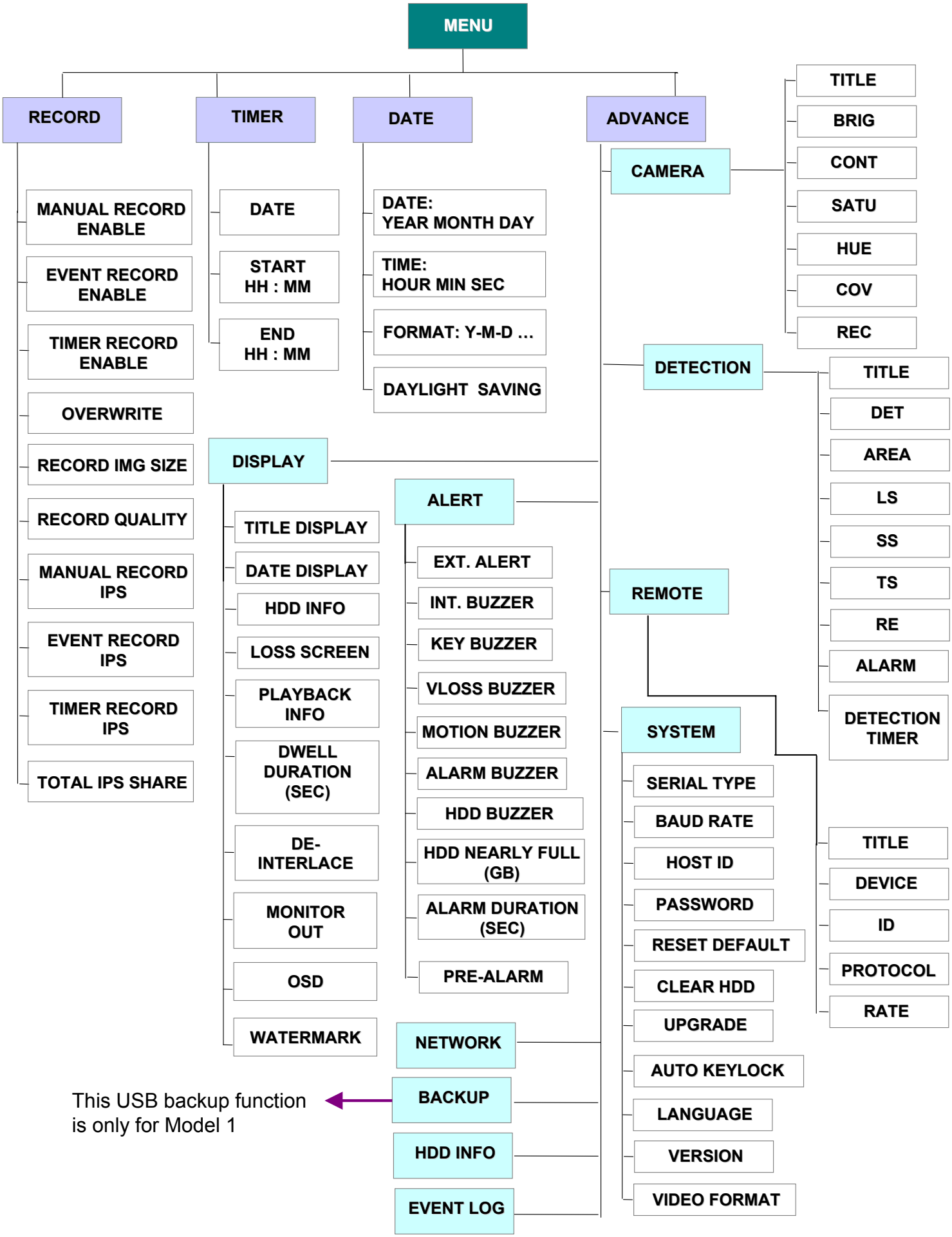
6) AUDIO:

Press "

" to select live or playback sounds of the 2 audio channels.

∗ AUDIO 1 (L) ; AUDIO 1 (P)
∗ AUDIO 2 (L) ; AUDIO 2 (P) L: Live audio; P: Playback audio

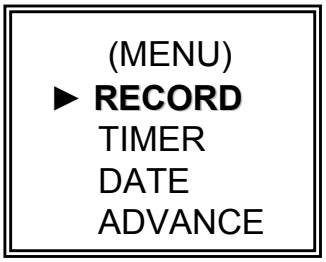
4.1 MENU TREE

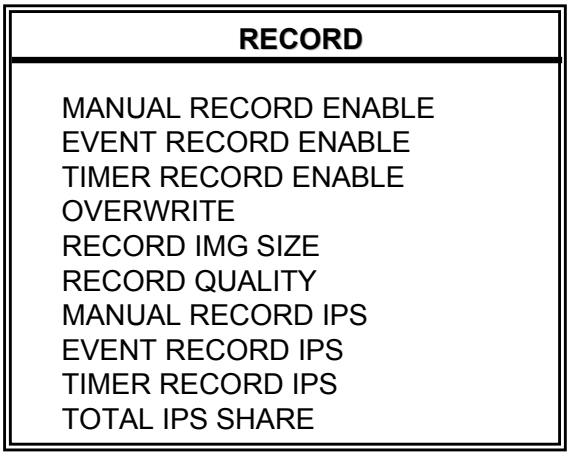

MENU
RECORD
MANUAL RECORD ENABLE
EVENT RECORD ENABLE
TIMER RECORD ENABLE
OVERWRITE
RECORD IMG SIZE
RECORD QUALITY
MANUAL RECORD IPS
EVENT RECORD IPS
TIMER RECORD IPS
TOTAL IPS SHARE
TIMER
DATE
START HH : MM
END HH : MM
DATE
DATE: YEAR MONTH DAY
TIME: HOUR MIN SEC
FORMAT: Y-M-D ...
DAYLIGHT SAVING
ADVANCE
CAMERA
TITLE
BRIG
CONT
SATU
HUE
COV
REC
DETECTION
TITLE
DET
AREA
LS
SS
TS
RE
ALARM
DETECTION TIMER
DISPLAY
TITLE DISPLAY
DATE DISPLAY
HDD INFO
LOSS SCREEN
PLAYBACK INFO
DWELL DURATION (SEC)
DE-INTERLACE
MONITOR OUT
OSD
WATERMARK
ALERT
EXT. ALERT
INT. BUZZER
KEY BUZZER
VLOSS BUZZER
MOTION BUZZER
ALARM BUZZER
HDD BUZZER
HDD NEARLY FULL (GB)
ALARM DURATION (SEC)
PRE-ALARM
REMOTE
SYSTEM
SERIAL TYPE
BAUD RATE
HOST ID
PASSWORD
RESET DEFAULT
CLEAR HDD
UPGRADE
AUTO KEYLOCK
LANGUAGE
VERSION
VIDEO FORMAT
TITLE
DEVICE
ID
PROTOCOL
RATE
NETWORK
BACKUP
HDD INFO
EVENT LOG
This USB backup function is only for Model 1

4.2 MAIN MENU OPTIONS___RECORD

Press “MENU” button to enter the main menu list. **The default admin password is 0000.** Enter the default password and press “ENTER”. (Users could alter the password later, please refer to “Section 4.11 ADVANCE MENU_SYSTEM”)

Move the cursor to the “RECORD”, and press ”ENTER”, then the screen will show the following options.





Use the following buttons for menu setting:

“▲▼◄► “ to move the cursor.

“＋ , －” to choose the numbers / selections.

“ ENTER “ to go to the submenu / to confirm the selection

“ MENU “ to go to the menu OSD
/ to confirm the change / to exit the menu OSD

1) MANUAL RECORD ENABLE:
Start / Stop the manual recording function.

2) EVENT RECORD ENABLE:
Start / Stop the event recording function. When this functions is activated, the recording will triggered by motion or external alarm

3) TIMER RECORD ENABLE:
Start / Stop the timer recording function.

4) OVERWRITE:
Select to overwrite previous recording video in HDD. When the HDD is full under O/W recording mode, previous recorded files will be overwritten without further warning notices.

5) RECORD IMG SIZE:
There are two recording options, FRAME and CIF. When change record image size, user need to stop recording first.

6) RECORD QUALITY:
There are four quality settings: BEST, HIGH, NORMAL & BASIC

7) MANUAL RECORD IPS:
Recording is activated by pressing the “REC” button. Select the images per second of MANUAL RECORD, The options are as the followings:
NTSC: FRAME: 30, 15, 7, 3 PAL: FRAME: 25, 12, 6, 3
CIF: 120, 60, 30, 15 CIF: 100, 50, 25, 12

8) EVENT RECORD IPS:

Recording is activated by event (alarm and motion trigger). Select the images per second for EVENT RECORD. The options are as followings:

NTSC: FRAME: 30, 15, 7, 3 PAL: FRAME: 25, 12, 6, 3

CIF: 120, 60, 30, 15 CIF: 100, 50, 25, 12

9) TIMER RECORD IPS:

Recording is activated by timer schedule. Select the images per second for TIMER RECORD. The options are as followings:

NTSC: FRAME: 30, 15, 7, 3 PAL: FRAME: 25, 12, 6, 3

CIF: 120, 60, 30, 15 CIF: 100, 50, 25, 12

10) TOTAL IPS SHARE:

There are two IPS settings:

FIX:

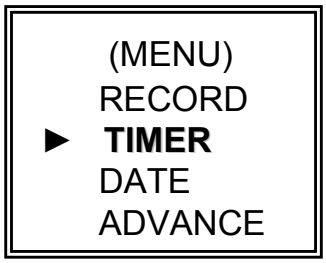
IPS per channel = RECORD IPS ÷ 4 channels

GROUP (Suitable for Frame mode):

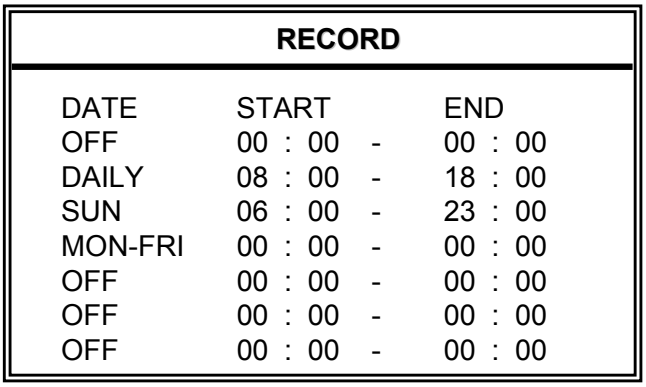
IPS per channel = RECORD IPS ÷ number of channels under recording.

Note: For Model 2, the IPS in frame mode is always fix.

4.3 MAIN MENU OPTIONS___TIMER



Move the cursor to “TIMER”, and press ”ENTER”, then the screen will show the following options.

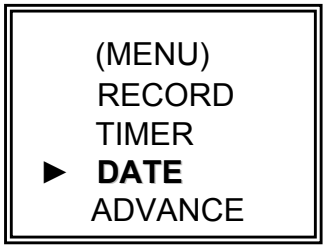


1) DATE:
Select scheduled record day (SUN/MON/TUE/ WED/ THU/ FRI/ SAT/ MON–FRI / SAT-SUN / DAILY/OFF) to set up timer record schedule.
NOTE 1 : Specific day could be changed by "＋" or "－" button.
NOTE 2 : If you plan to set the timer recording across the midnight, there are two ways for setting the timer recording schedule, please following the instructions below.
Example 1 : If you only want to set recording timer schedule from every Sunday 23:30 to Monday 23:30, then you could set recording timer schedule as Sunday from 23:30 to 23:30.
Example 2 : If you plan to set the timer recording from Sunday 08:00 to Monday 15:00, then you could set the recording timer schedule as Sunday from 08 : 00 to 00 : 00, and Monday 00 : 00 to 15 : 00.
Note: Please turn on "Timer Record Enable" in record menu, refer to P.11.

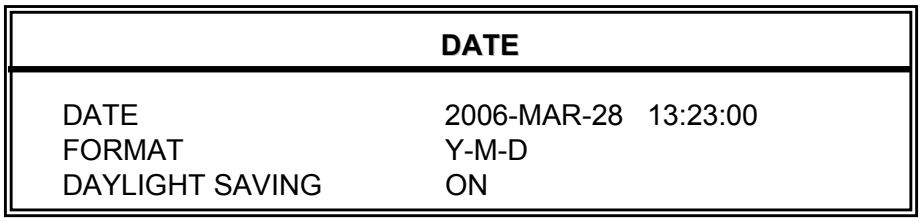
2) START:
Select the start time for the recording.

3) END:
Select the finishing time for the recording.

4.4 MAIN MENU OPTIONS___DATE



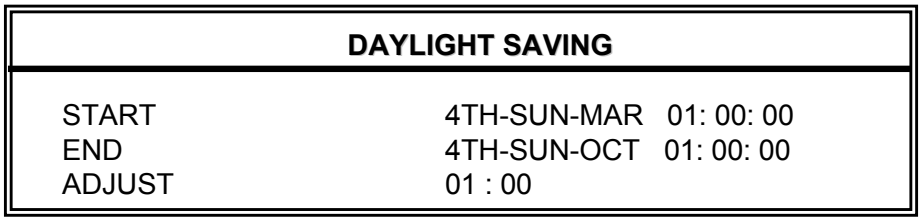
Move the cursor to "DATE", and press "ENTER", then the screen will show the following options.



1) DATE:
Set the correct time of the DVR (YEAR / MONTH / DAY / HOUR / MIN / SEC)

2) FORMAT:
There are three formats: Y-M-D, M-D-Y, D-M-Y.

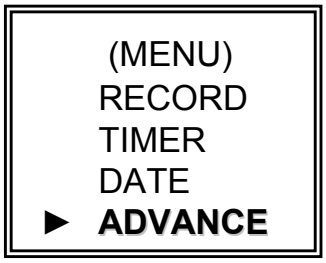
3) DAYLIGHT SAVING:
Specify whether to use daylight saving time and time period. (START / END)
Daylight saving time can be adjusted manually.
Enter the daylight saving menu mode to set the start time, the end time and adjust how many hours of the daylight saving.

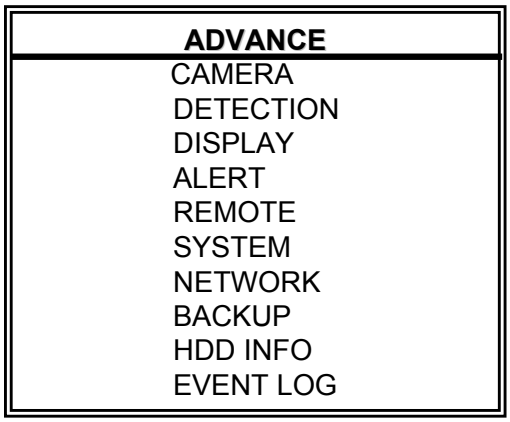


NOTE: The illustrated setting means: During the daylight saving time period (start from the 4th Sunday of March, end on the 4th Sunday of October), the DVR system time will plus one hour.

4.5 MAIN MENU OPTIONS___ADVANCE

Move the cursor to “ADVANCE”, and press ”ENTER”, then the screen will show the following options.





4.6 ADVANCE MENU ___CAMERA

Move the cursor to “CAMERA”, and press ”ENTER”, then the screen will show the following options.

CAMERA

TITLE	BRIG	CONT	SATU	HUE	COV	REC
01	110	128	128	128	NO	YES
02	110	128	128	128	NO	YES
03	110	128	128	128	NO	YES
04	110	128	128	128	NO	YES

1) TITLE:
Move the cursor to the camera title which you want to change, and press “ENTER” to access the setting screen. Assign each channel a title (up to six characters (letters or symbols…)), the default title is the channel number.

2) BRIG / CONT / SATU / HUE:
Adjust the Brightness/Contrast/Saturation/Hue of each channel.
The level is from 0 to 255. The default value of BRIG is 110, others are128.

3) COV (COVERT):
Select “YES” to mask the selected channel which is under recording.
When this function is activated, the “COV” words will be shown on the screen.

4) REC (RECORD):
Select “YES” to enable the record function; Select “NO” to disable the record.

5) PREV / NEXT:
Select “PREV” to go to the previous page; Select “NEXT” to go the next page.

4.7 ADVANCE MENU ___DETECTION

Move the cursor to “DETECTION”, and press ”ENTER”, then the screen will show the following options.

DETECTION
DETECTION SETUP DETECTION TIMER

1) DETECTION SETUP:

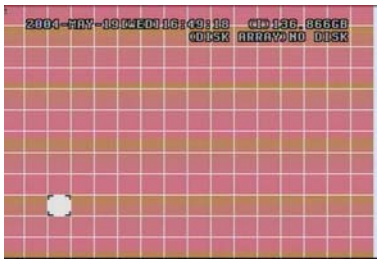
DETECTION

TITLE	DET	AREA	LS	SS	TS	RE	ALARM
01	ON	SETUP	07	03	02	10	OFF
02	ON	SETUP	07	03	02	10	LOW
03	ON	SETUP	07	03	02	10	HIGH
04	ON	SETUP	07	03	02	10	OFF

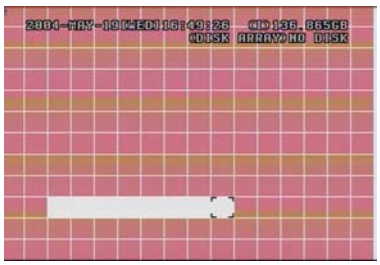
a) TITLE:
Show camera title of each channel.

b) DET:
Select “ON” to activate the motion detection function of the selected channel.
Select “OFF” to inactivate the motion detect function of the selected channel.

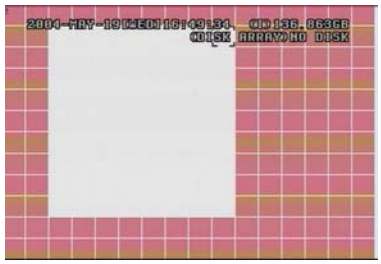
c) AREA:
Press the “ENTER” button to set detection area.
Pink blocks represent the area that is not being detected while the transparent blocks are the areas under detection.



Press “ENTER” to confirm the start area

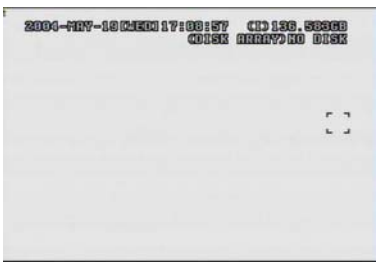


Press ◄ or ► to choose the width of the area

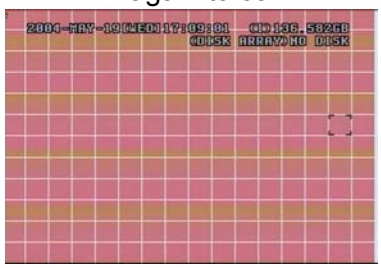


Press ◄ or ► to choose the height of the area, and press “ENTER” again to confirm.

Multi-detection area



Press “－” to turn all area under detection



Press “＋” to close all detection area

▲▼◄►: navigates between targets.

d) LS :
The sensitivity of comparing two different images. The smaller the value is, the higher sensitivity for motion detection.
The highest sensitivity setting is 00 and the lowest sensitivity setting is 15.
The default value is 07.

e) SS :
The sensitivity regarding the size of the triggered object on the screen.(the number of motion detection grids). The smaller the value is, the higher sensitivity for motion detection.
The highest sensitivity setting is 00 and the lowest sensitivity setting is 15.
The default setting is 03.

Note: The default setting of Spatial Sensitivity is 03 which means once a object is detected more than 3 grids. The system will get triggered. So the value of Spatial Sensitivity must be less than the number of grids that you set up to motion detection area.

f) TS :
The sensitivity regarding how long the object gets triggered. The smaller the value is, the higher motion detection sensitivity will be.
The highest sensitivity setting is 00, and the lowest sensitivity setting is 15.
The default setting is 02.

g) RE :
The value of RE is a reference for detection. The default value is 10, which means DVR will compare 10 continuous images at one time according to the sensitivity of LS, SS, TS simultaneously. The bigger the value is, the higher sensitivity for motion detection.

h) ALARM:
Select LOW / HIGH for the alarm polarity. The default alarm value is OFF.

2) DETECTION TIMER:
Set the date, start time, end time of the detection function.

DETECTION TIMER

DATE	START		END
OFF	00 : 00	-	00 : 00
DAILY	08 : 00	-	18 : 00
SUN	06 : 00	-	23 : 00
MON-FRI	00 : 00	-	00 : 00
OFF	00 : 00	-	00 : 00
OFF	00 : 00	-	00 : 00
OFF	00 : 00	-	00 : 00

4.8 ADVANCE MENU ___DISPLAY

Move the cursor to “DISPLAY”, and press ”ENTER”, then the screen will show the following options.

DISPLAY	
TITLE DISPLAY	ON
DATE DISPLAY	ON
HDD INFO	ON
LOSS SCREEN	BLUE
PLAYBACK INFO	NORMAL
DWELL DURATION (SEC)	2
DE-INTERLACE	ON
MONITOR OUT	MAIN
OSD	SETUP
WATERMARK	ON

1) TITLE DISPLAY:
Turn the channel title display on / off.

2) DATE DISPLAY:
Turn the date display on / off.

3) HDD INFO”
Turn on / off the information display of internal HDD.

4) LOSS SCREEN”
Set the color of video loss screen (Blue or Black)

5) PLAYBACK INFO:
Set the position where playback information will be indicated
(center or normal (on the button of left-hand side of the screen)).

6) DWELL DURATION (SEC):
Set the duration time of each channel for CALL MONITOR (2, 4, 8, 16 sec.)

7) DE-INTERLACE:
Set the “DE-INTERLACE” function on / off.
Note:
For Model 2, de-interlace function is always off in the frame quad playback mode.

8) MONITOR OUT:
Select video output device (Main monitor / VGA output (optional device))

9) OSD:
Set customized OSD color.

10) WATERMARK:
In the playback mode of the software AP, users could proof the authenticity of the **BACKUP VIDEO**. If the **BACKUP VIDEO** had been modified, the video image will turn to light red and the playback will be paused.
Please refer to P. 31 for detailed instruction.
Note: This function is always on and non-switchable.

4.9 ADVANCE MENU ___ALERT

Move the cursor to “ALERT”, and press ”ENTER”, then the screen will show the following options.

ALERT	
EXT. ALERT	ON
INT. BUZZER	ON
KEY BUZZER	ON
VLOSS BUZZER	ON
MOTION BUZZER	ON
ALARM BUZZER	ON
HDD BUZZER	ON
HDD NEARLY FULL (GB)	05
ALARM DURATION (SEC)	05
PRE-ALARM	OFF

1) EXT. ALERT:
Set the sound on / off when external alarm is triggered.

2) INT. BUZZER:
Set the sound of KEY / VLOSS / MOTION / ALARM / HDD FULL on or off.

3) KEY BUZZER:
Set the sound on / off when pressing the button.

4) VLOSS BUZZER:
Set the sound on / off when video loss happened.

5) MOTION BUZZER:
Set the sound on / off when motion alarm triggered.

6) ALARM BUZZER:
Set the sound on / off when internal alarm triggered.

7) HDD BUZZER:
Set the sound on / off when the HDD is full.

8) HDD NEARLYFULL (GB):
If HDD buzzer is on, you could choose to have a buzzer notification when the HDD available capacity is only xxx GB left..

9) ALARM DURATION (SEC):
Press “ENTER” or “＋” or “－” button to set the duration time of alarm recording (5, 10, 20, 40 sec.).

10) PRE-ALARM:
Set the pre-alarm function on (8MB)/ off.
When pre-alarm and event record functions are both activated, the DVR will record 8MB file before alarm / motion triggered.

4.10 ADVANCE MENU ___REMOTE

Move the cursor to “REMOTE”, and press ”ENTER”, then the screen will show the following options.

REMOTE				
TITLE	DEVICE	ID	PROTOCOL	RATE
01	PTZ	001	P - D	02400
02	CAMERA	002	NORMAL	02400
03	CAMERA	003	NORMAL	02400
04	CAMERA	004	NORMAL	02400

1) TITLE:
Title of each camera.

2) DEVICE:
Select to control normal camera or PTZ camera for each channel.

3) ID:
Set the ID number (0 ~ 255) of PTZ camera.
Note: After connect to PTZ correctly, the **default ID** of PTZ will be shown on the screen.
Note: Please refer to below instruction “**PTZ Connection and Control**”

4) PROTOCOL:
Select NORMAL (our protocol) or PELCO-D protocol.

5) RATE:
Set the baud rate of each channel (2400, 4800, 9600, 19200, 57600).

*****PTZ Connection and Control: *****

1) Device: Our own brand PTZ / Pelco-D protocol PTZ

2) Connection: Detailed connection and instructions, please refer to PTZ manual.
Note:
As for “RS485A and RS485B Port” please refer to “Section 1.5 Rear Panel”, or refer to “Appendix #2 PIN Configuration”.

3) Control Mode: Refer to front panel.

4) Detailed PTZ operation, please refer to PTZ manual.

4.11 ADVANCE MENU ___SYSTEM

Move the cursor to “SYSTEM”, and press ”ENTER”, then the screen will show the following options.

SYSTEM	
SERIAL TYPE	RS - 485
BAUD RATE	02400
HOST ID	003
PASSWORD	SETUP
RESET DEFAULT	RESET
CLEAR HDD	MASTER
UPGRADE	NO → For Model 1
AUTO KEYLOCK	NEVER
LANGUAGE	ENGLISH
VERSION	1052-09-I4-04-AA-11
VIDEO FORMAT	NTSC

1) SERIAL TYPE:
Press “ENTER” or “＋” or “－” button to set the control serial type (RS-485, RS-232) of DVR.

2) BAUD RATE:
Press “ENTER” or “＋” or “－” button to set the BAUD RATE of DVR (2400, 9600, 19200, 57600).

3) HOST ID:
Press “ENTER” or “＋” or “－” button to set the ID of DVR (0 ~ 255).

4) PASSWORD:
Press “ENTER” to set the password for accessing DVR (admin password or guest password). Users who use guest password to access the DVR will only allow to view the live streaming video, sequence display, shift the channel display, and key lock.

5) RESET DEFAULT:
Press “ENTER”, and select “YES” to confirm or “NO” to cancel.

6) CLEAR HDD:
Press “ENTER”, and “YES” to confirm clear HDD or “NO” to cancel.

7) UPGRADE:
(This function is only for Model1.)
(For Model 2, only support upgrade from AP side, please refer to P.27)
Press “ENTER”, and select “YES” to confirm upgrade or “NO” to chancel.

8) AUTO KEYLOCK:
Set the auto key lock function (Never / 10 sec / 30 sec / 60 sec).

9) LANGUAGE **(Support multi-language)**:
Press “ENTER”, and select the language for the OSD.

10) VERSION:
The firmware version information.

11) VIDEO FORMAT:
The information of the DVR’s video format.

4.12 ADVANCE MENU ___NETWORK

Move the cursor to “NETWORK”, and press ”ENTER”, then the screen will show the following options.

NETWORK	
NETWORK TYPE	STATIC
DNS	61. 66. 138. 53
PORT	0 0 8 0

1) NETWORK TYPE (STATIC):

Select NETWORK TYPE, and press “＋” or “－” button to set the network type as STATIC, and then press “ENTER” to go to the submenu of the network. In the submenu of network type, use “＋” or “－” button to set all the information needed in the DVR. See the illustration below.

STATIC	
IP	60. 121. 46. 236
GATEWAY	60. 121. 46. 226
NETMASK	255. 255. 255. 254

2) NETWORK TYPE (DHCP):

The DHCP function needs to be supported by router or cable modem network with DHCP service. For detailed DHCP setting, please follow the AP (Licensed Software AP) setup, and then refer to P32 and P33.

3) NETWORK TYPE (PPPoE):

This PPPoE function need to have “username” and “password” from ISP supplier. For detailed PPPoE setting, please follow the AP (Licensed Software AP) setup, and then refer to P32 and P33.

NOTE:

DHCP and PPPoE network types need to apply DDNS service to get “Hostname” to correspond to dynamic IP address. For detailed DDNS setting, please refer to P.33.

4.13 ADVANCE MENU ___ BACKUP

This USB backup function is only for Model 1

Move the cursor to “BACKUP”, and press ”ENTER”, then the screen will show the following options.

BACKUP
USB BACKUP

Select “USB BACKUP” and then press “Enter”.

USB BACKUP	
START TIME	2005-12-28 10 : 56 : 32
END TIME	2005-12-28 12 : 00 : 00
AVAILABLE SIZE	0512 MB
CHANNEL	● 01 ● 02 X 03 X 04
HDD NUM	MASTER
BACKUP TO USB	START

1) START TIME:
Select the start time of the backup.

2) END TIME:
Select the end time of the backup.

3) AVAILABLE SIZE:
Display the available capacity in the USB.

4) CHANNEL:
Select channels by pressing “ENTER” button to change the symbol in front of the channel number.
Symbol “X” means that this channel is not selected.
Symbol “●” means that this channel is selected.

5) HDD NUM:
Master HDD.

6) BACKUP TO USB:
Press “ENTER” to start backup the chosen file to USB.

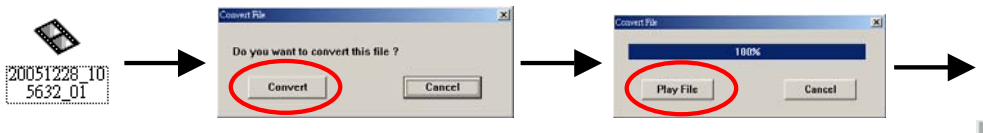
NOTE:

① The USB format must be “FAT 32”.

② If the USB is not supported by the DVR, then the “USB ERROR” message will be shown on the screen.

③ We recommend to clear all the files in the USB before you backup files in your USB.

④ The backup files can be view on the licensed software AP.
Or users can convert the recorded file to AVI format. For detailed AP playback, please refer to P.31.



4.14 ADVANCE MENU ___HDD INFO

You can get the capacity information on all the connected HDD.

HDD INFO	
HDD NUM	HDD SIZE
MASTER	400.517

4.15 ADVANCE MENU ___EVENT LOG

You can get all the information (event type, time, and channel) on the event list (including video loss list, net list, other lists (such as power on / off, key unlock, reset to default). Select the event list you want to see and press “ENTER”.

EVENT LOG	
VLOSS	LIST
NET	LIST
OTHERS	
CLEAR	ALL

1) VLOSS LIST:
Show the information of video loss list.

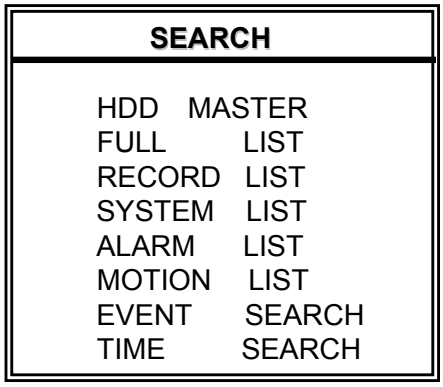
2) NET LIST:
Show the information of net login list.

3) OTHERS:
Show the information of power on / off, unlock, reset to default list.

4) CLEAR ALL:
Clear all event log lists.

5.1 SEARCH

Press "**SEARCH**" buttons on the front panel of the DVR to enter the search mode. Then the screen will show the following options.



1) HDD:
Master HDD.

2) FULL LIST:
List all recorded files
(R: RECORD / S: SYSTEM / A: ALARM / MS: MOTION / T: TIMER).

3) RECORD LIST:
List of manual recorded files.

4) SYSTEM LIST:
List of system recorded files.
Under continuous recording mode, the DVR system will save one recording file every one hour.

5) ALARM LIST:
List of alarm trigger recorded files.

6) MOTION LIST:
List of motion trigger recorded files.

7) EVENT SEARCH:
Search by specific time period (YEAR / MONTH / DAY / HOUR / MIN), channel, HDD, and event type (motion / alarm triggered recording videos).
When you playback the recording videos, it would play with fast speed.

8) TIME SEARCH:
Search by specific time period (YEAR / MONTH / DAY / HOUR / MIN).

NOTE:
Move the cursor to the specific recorded file and press "ENTER" to play the video, and press stop " ■ " button to return the live display.

5.2 KEY LOCK

1) Key Lock On:

   ① Press “MENU” + “ENTER” buttons on the DVR front panel to key lock.
   ② Auto key lock: refer to “Section 4.11 ADVANCE MENU_SYSTEM”.

2) Key Lock Off:
   Press any key (except “SHIFT” and “POWER” buttons)
   and then key in the password to exit Key Lock mode.

3) Password:
   For the password setting, please refer to “Section 4.11 ADVANCE MENU_SYSTEM”.

5.3 SWITCH THE N/P SYSTEM

1) Press “POWER” button on the DVR front panel to shutdown, and then press “POWER” + “►“ to switch to PAL system.
   (Press the buttons untill the monitor show the video image of the DVR.)

2) Press “POWER” button on the DVR front panel to shutdown, and then press “POWER” + “◄“ to switch to NTSC system.
   (Press the buttons untill the monitor show the video image of the DVR.)

5.4 USB UPGRADE

This USB upgrade function is only for Model 1

For Model 2, only support upgrade from AP side, please refer to P.27

Users can use USB to upgrade.

Please format the USB memory device as FAT 32 format first.

1) Get the upgrade files from your distributor.
2) Save the upgrade files in your USB device (Do not change the file name).
3) Go to the “MAIN MENU – SYSTEM - UPGRADE” , and press “ENTER”.
4) Select “YES”, and press “ENTER” again to confirm upgrade.

1 **WARNING** UPGRADE ARE YOU SURE? YES NO	2 **WARNING** PLEASE WAIT… UPGRADE KERNEL OK	3 **WARNING** PLEASE WAIT… UPGRADE BOOT OK
4 **WARNING** PLEASE WAIT… UPGRADE HTML OK	5 **WARNING** UPGRADE SUCCESS REBOOT OK	6 **WARNING** SHUTDOWN PLEASE WAIT… OK

NOTE:

① The USB format must be “FAT 32”.

② If the USB can’t be detected by the DVR, the “USB ERROR” message will be shown on the screen.

5.5 LICENSED SOFTWARE AP

1) Install the Software:

① Place the attached CD into CD-ROM and it will start to install application programs into PC (Including AP and JAVA program).

② The PC will run the setup file automatically.

③ After setup, user will see “

“ icon on the desktop.

NOTE:

For the latest version of the software AP, please refer to your distributor, or refer to “Section 5.6 CONNECT TO AP VIA IE BROWSER”.

2) AP Basic Operation:

① Connect DVR to PC via RJ45 network line.

② LAN Setting :
The default DVR IP is “192.168.1.10”, and default “username” and “password” are both “admin”. Users should set PC’s IP address as “IP:192.168.1.***XXX*** (1~255, except 10)” (in order to make the PC and DVR under the same domain).

③ Double click to enter login page.
Key in IP (192.168.1.10), username (admin), password (admin), port (80) in the login page. After connect to the DVR with local LAN, users could modify the network settings in DVR or in system config of the licensed software AP.

④ Network Type ~ Static IP :
Set the network information in the DVR menu (Section 4.12) or in System Config of the licensed software AP (P.32).

Network Type ~ Dynamic IP (DHCP and PPPoE) :
Set the Network information in System Config of the licensed software AP. For detailed DHCP and PPPoE setting, please refer to P.32 and P.33.

⑤ After setup the network information, double click to enter login page.
Key in “Username”, “ Password”, “IP” (Static IP) or “Host name” (Dynamic IP), and “Port”. And then click the green button to connect.

⑥ LOGIN AP Icon Explanation.

Address Book: Press this button to add a new IP into the IP Address Book or choose any preset IP address to access the software AP.

Copy: Press this button to copy all the software installation files, so users could keep all the settings of video web server for next software installation on other PC.

Search: Search available DVR IP address in local area network and modify the network setting of the DVR.

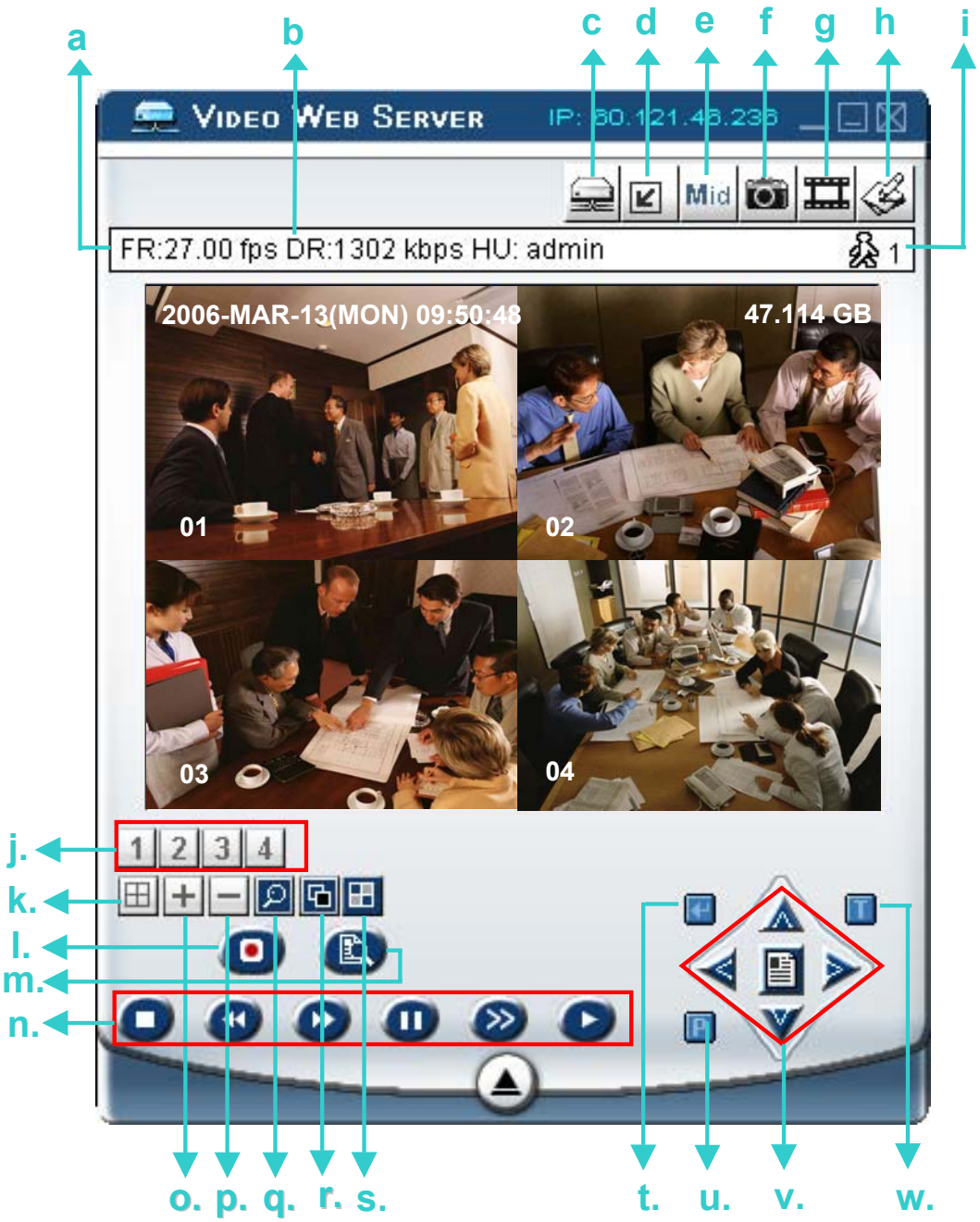
Upgrade Firmware: Press this button to upgrade DVR firmware or OSD langue file. The provided firmware and OSD files should be saved at PC first.

Player: Press this button to access and play the recorded files that are saved in your PC.

NOTE: The version of the licensed software will shown on the login page.

⑦ Video Web Server Control Panel.

Digital Device Control Panel ~ 4 CH DVR



a. Image Transfer Rate Per Second

b. Data Transfer Rate

c. Connect / Disconnect

d. Resolution:
NTSC: 320 × 228 ; 640 × 456
PAL: 320 × 276 ; 640 × 552

e. Image Quality (High, Medium, Low)

f. Snapshot : press this button to take a snapshot of the image which will be saved in the designated destination.

g. Record : press this button to start recording, and press this button again to stop recording. The recorded files will be saved to the designed path on the PC. Each recording file can be up to 18,000 frames. When the recording file is full, the new recorded file will be saved as the second file.
If the HDD space is less than 200MB, the program will stop recording.

h. System Config: press this button to enter the setting page of the software AP.

i. Number of Online Users

j. CH 1 ~ 4

k. 4 Channel Display

l. Record

m. Search

n. Stop / Fast Rewind / Fast Forward / Pause / Slow Playback / Play

o. ＋

p. －

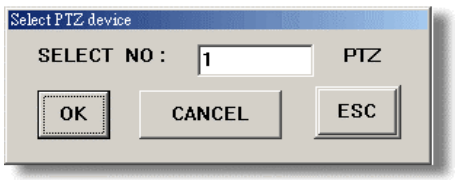
q. Digital Zoom

r. Set : press this button to change channel display position.
Press “▲▼◀▶” to select the channel that You would like to change.
Press “＋” or “－” select the channel that You would like to show.
Press “Enter” button to confirm.

s. Sequence: press this button to enter the call monitor function and press again to exit from call monitor mode.

t. Enter

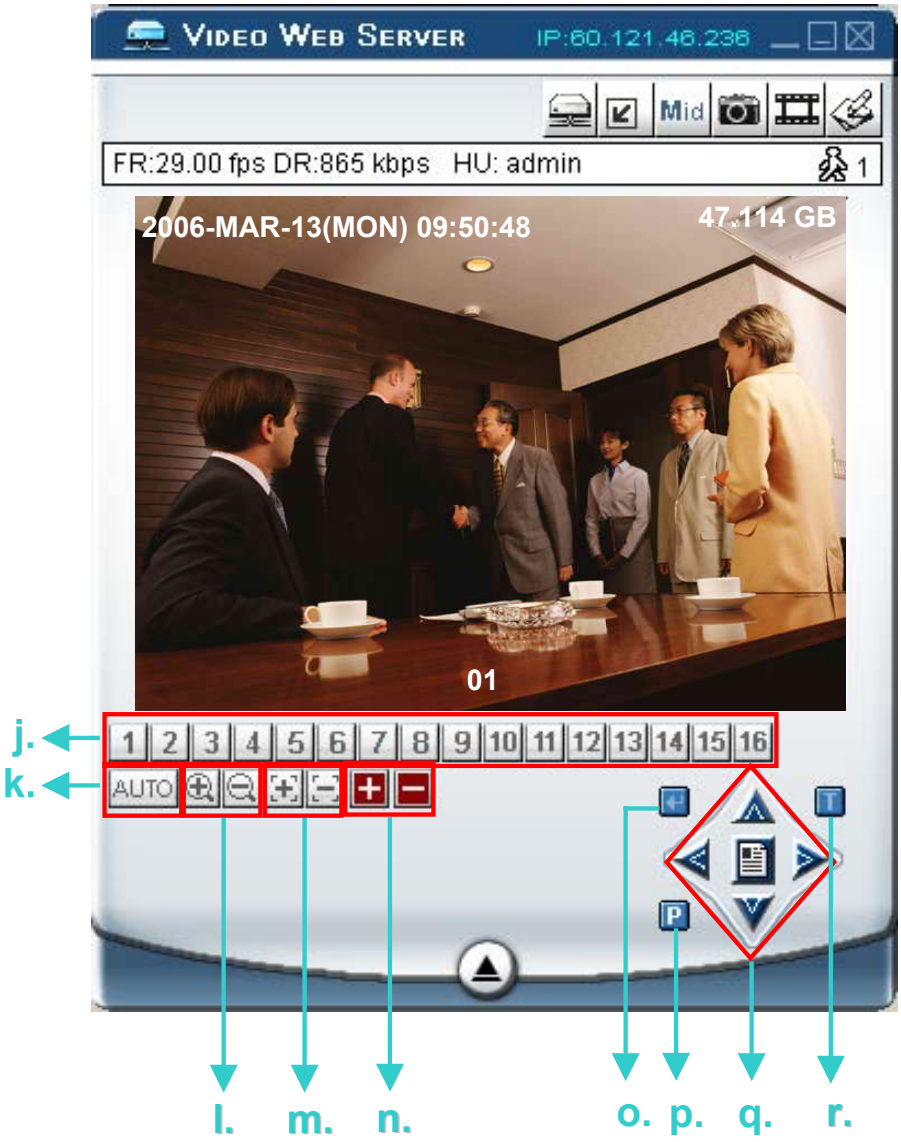
u. PTZ Control On / Off:
When the PTZ control turned on, users could select
the PTZ device, and press “OK” button to enter the PTZ control AP screen.
(Press “ESC” to exit from PTZ control AP screen and back to DVR control AP screen)



v. Menu / Up / Down / Left / Right

w. Turbo ON/ OFF:
To speed up menu selection or the control of the PTZ camera under software AP, users could activate "Turbo" function by clicking this button. Users are allowed to change the turbo steps from 1 to 10. .
Ex. If users activate the TURBO function, and set the value of the turbo step as 3, then when users press one of the button up/down/left/right, one mouse click will function as clicking 3 times.

Digital Device Control Panel ~ PTZ



j. Preset 1 ~ 16

k. AUTO

l. Zoom Tele Zoom Wide

m. Focus Near Focus Far

n. Max Zoom In Max Zoom Out

o. Enter

p. PTZ Control On / Off:
When PTZ control mode is turned on, users could select the PTZ device, and press “OK” button to enter the PTZ control AP screen. (Press “ESC” to exit from PTZ control AP screen and back to DVR control AP screen)

q. Menu / Up / Down / Left / Right

r. Turbo:
To speed up menu selection or the control of the PTZ camera under software AP, users could activate "Turbo" function by clicking this button. Users are allowed to change the turbo steps from 1 to 10. .
Ex. If users activate the TURBO function, and set the value of the turbo step as 3, then when users press one of the button up/down/left/right, one mouse click will function as clicking 3 times.

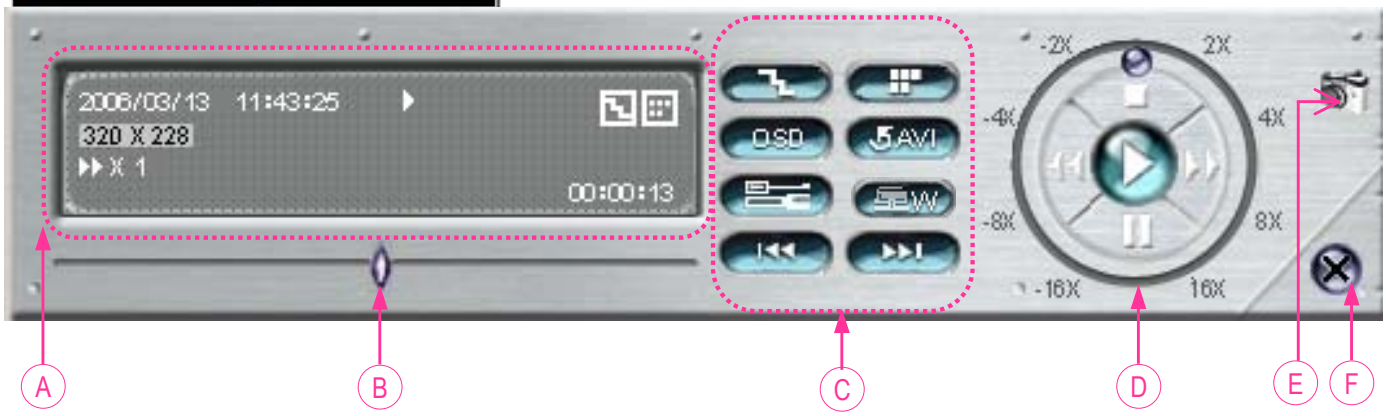
⑧ Playback Operation

AP Playback Window :

AP Config. Setting Box :

One click to activate

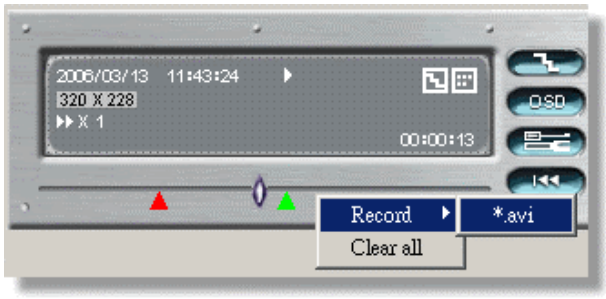
- De-interlace
- De-blocking
- OSD
- AVI Convert
- Config. Setting
- Watermark
- Open Previous File
- Open Next File



A. **Playback Information** :
Display information such as “Date”, “Time”, “Resolution”, “ Rewind / Forward Speed”, “Status” and “Functions”, etc..

B. **Time Progress Bar** :
Show the playback progress status.

C. **Functions** :



To snap video, right-click of the mouse to make a starting point (red) and click one more time to make a ending point. Then right-click to convert to AVI format.

- **De-interlace**: Reduce the vibration of the paused picture.
- **De-blocking**: Reduce the video mosaic phenomenon.
- **OSD**: Display the OSD of the AP playback window.
- **AVI convert**: Convert the entire recorded file to AVI format.
- **Config. Setting**: Enter AP config. setting box, and set the file destination, text color, and text color of progress status.
- **Watermark**: Proof the authenticity of the backup video.
- **Open Previous File**: Open previous backup video.
- **Open Next File**: Open next backup video.

D. **Playback Control Buttons** :
Play / Stop / Pause / Fast Rewind / Fast Forward

E. **Snapshot** :
Press this button to take a snapshot of the current image which will be saved in the designated destination.

F. **Close the Player**.

Note:

- When users pause the playback picture, press “ ” button to go to the previous frame, or press “ ” button to go to the next frame.
- In the playback mode of the software AP, users could press ” “ button to check the authenticity of the **BACKUP VIDEO**. If the **BACKUP VIDEO** had been altered, the video image will turn to light red and the playback will be paused.

Note:

- When users use remote AP recording, the watermark function is not supported.

3) AP Advanced Setting:

❑ Press "System Config" button to enter the system setting page.

Network

The network configuration allows DVR to connect to an Ethernet network or dial-up.

① **Static IP:**
Enter the "server IP", "gateway", "net mask" and "web port", then press "APPLY" to confirm.

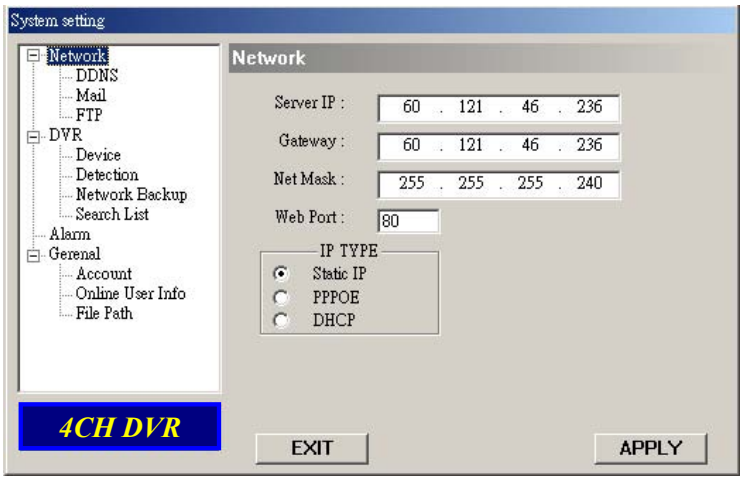
② **PPPoE:**
Enter the "username" and "password" provided by your ISP (Internet Sever) supplier, then press "APPLY" to confirm.

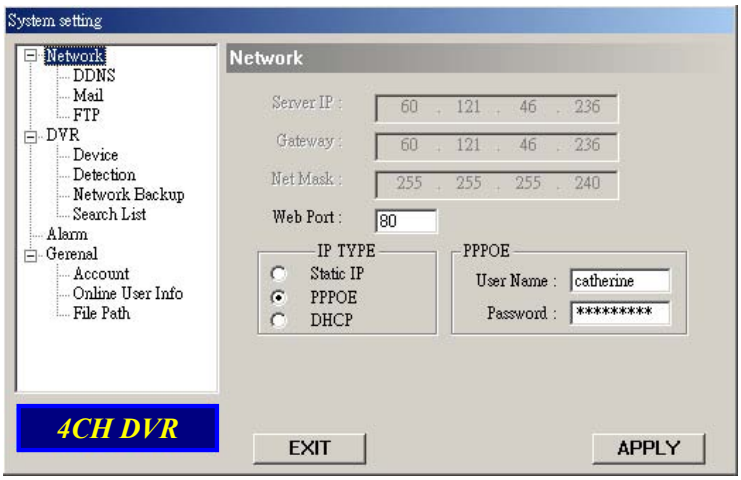
③ **DHCP:**
This DHCP function need to be supported by router or cable modem network with DHCP service. Choose the DHCP IP type and press "APPLY" to confirm.

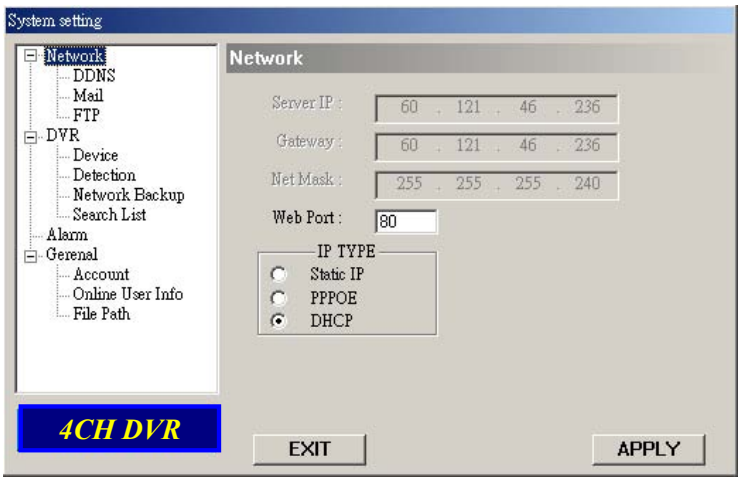
*****Note***:**
PPPoE and DHCP network connection type will require to apply DDNS service to get a "Hostname" to correspond to dynamic IP address.
Please refer to P.33 for details.

*****Note***:**
Some router brand may need to restart the DVR to get the IP address.

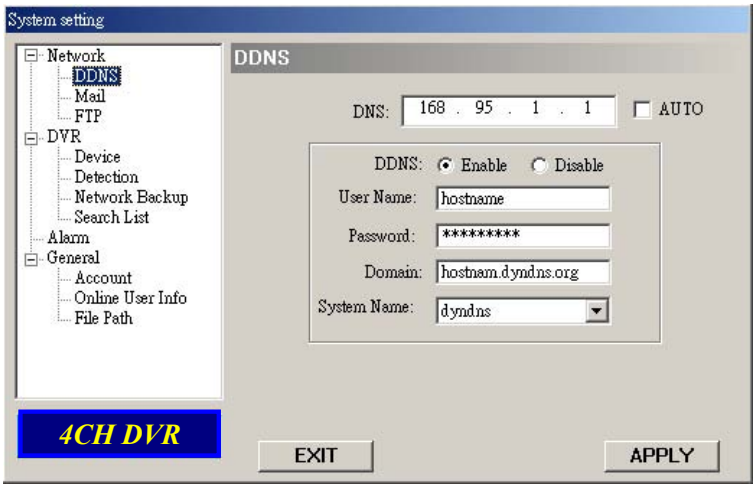
④ **Web Port:**
The DVR can be viewed over the network with software AP or a web browser. Typically the TCP port used by HTTP is 80. However in some cases it is better to change this port number for added flexibility or security. Valid number is 80 ~ 19999.







DDNS



① DDNS is a service for transforming dynamic IP to corresponding to a specific "Hostname".

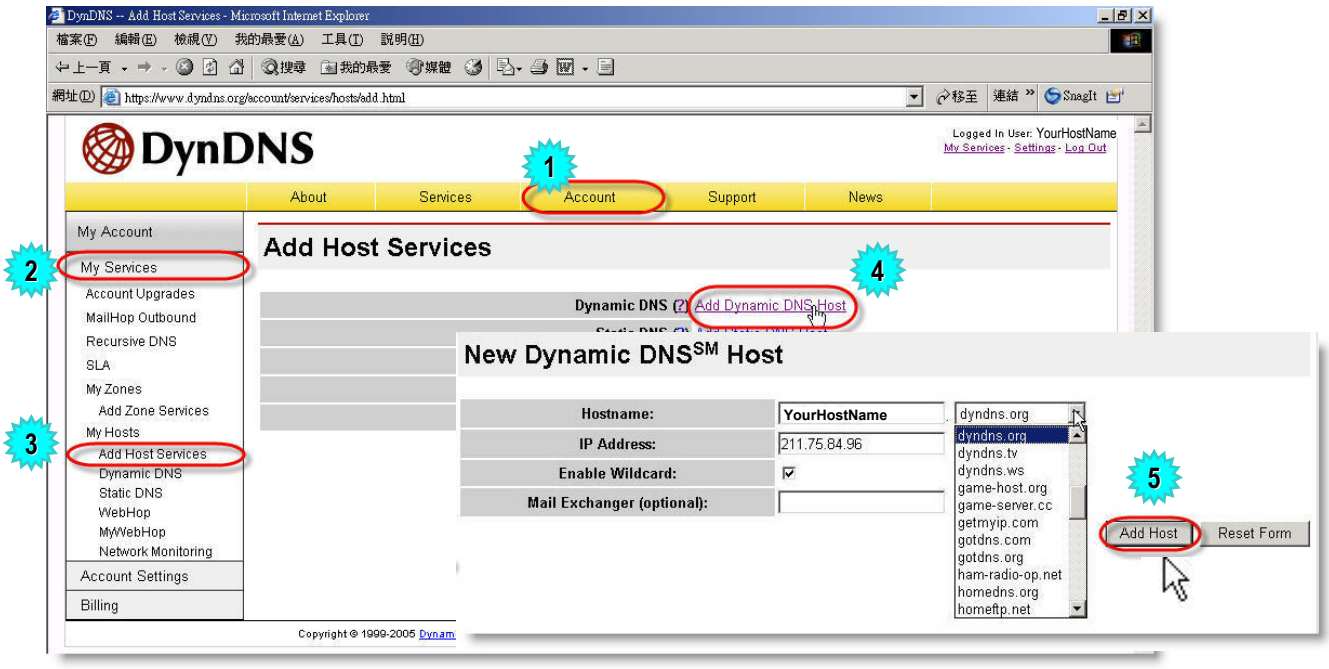
② **DDNS Apply:**
Go to a website which provide free DDNS services and apply a "Hostname". See the example below.

③ **Enable the DDNS function**:
Enter "DDNS username" into "username" column.
Enter the "DDNS password" into "password" column.
Enter the "Hostname" into "Domain" column.
Choose the "DDNS system name".
After setting, press "APPLY" to confirm.

④ **Auto:**
When using DHCP network connection, the system will auto get DNS information.

DDNS APPLY EXAMPLE:

- ❑ Go to a website which provide free DDNS services.
  For example, "http://www.dyndns.org".
- ❑ Create an account in DynDNS.
- ❑ After created your account, users will receive an confirmation e-mail within few minutes. To complete registration, please follow the instructions received.
  Users must complete these steps within 48 hours to complete the registration.
  If the confirmation e-mail was not received within an hour, request "password reset" (http://www.dyndns.org/account/resetpass/).
- ❑ Use the DDNS username and password to login the DynDNS.
- ❑ **Create Hostname:**
  Login → "Account" → "My Service" → "Add Host Services" → "Add Dynamic DNS Host" → Enter and choose the hostname → Click on "Add Host" → DDNS Hostname created.



Mail

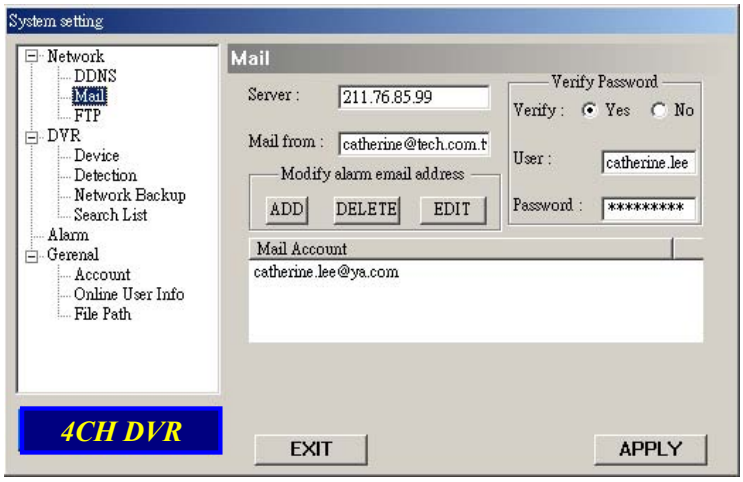
① When alarm or motion is triggered, a video copy file can be captured. DVR can send e-mail notification to the assigned recipients (up to 5 recipients).
*****Note***:**
To activate the e-mail notification function, please enable the function of e-mail notification in the "**Alarm**" setting first (P.38).

② Add the recipients' email accounts in the "**Mail Account**" column. The detailed information (SMTP server, username and password) refer to e-mail system supplier.

③ Please type in the entire email address in the "**Mail from**" column to ensure emails will not be blocked by SMTP.

④ In some cases, mail server require to verify password, please enter the "**user name**" and "**password**".

⑤ After finished the settings, press "APPLY" to confirm.



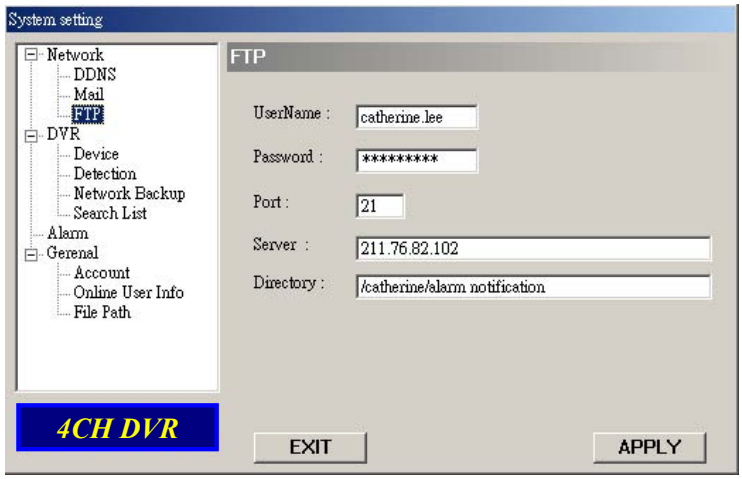
FTP

① When alarm or motion is triggered, a video copy file can be captured. And DVR can upload the captured images to the assigned FTP site.

② Enter the detailed FTP information.

*****Note***:**
To activate the FTP notification function, please enable the function of FTP notification in the "**Alarm**" setting first (P.38).

③ After setting, press "APPLY" to confirm.



DVR – Camera Setting

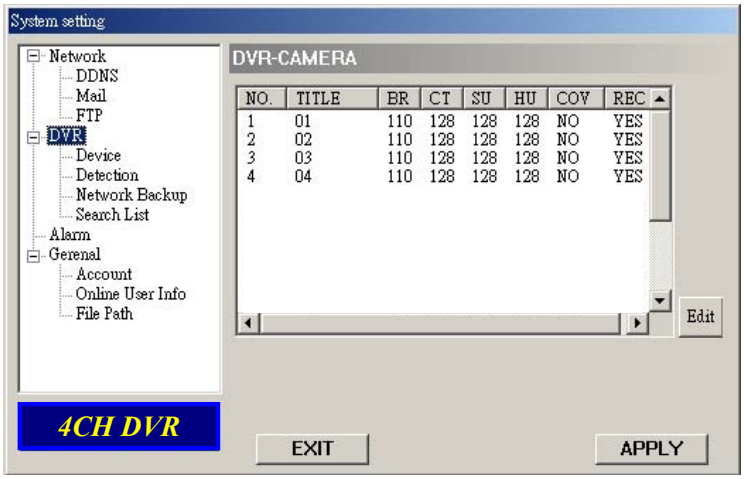
① Each camera channel can be adjusted independently.

② Select the desired camera channel. Press “Edit” to enter the setting box.

③ **Title:**
Enter the camera channel name up to 6 characters.

④ **Adjustment:**
Adjust the BR (brightness) / CT (contrast) / SU (saturation) / HU (hue) / REC (recording) of the camera.

⑤ After setting, press “OK” and then press “APPLY” to confirm.



Device

① Select the desired channel of the installed external device.
Press “Edit” to enter the setting box.

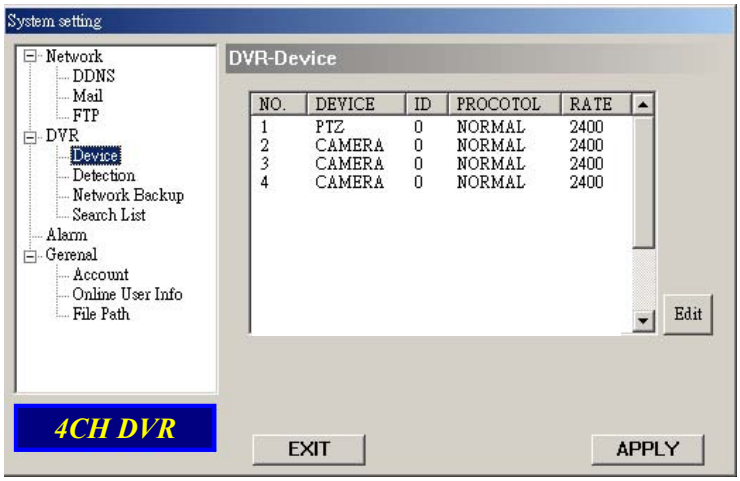
② **Device Type**:
Choose either general camera or PTZ camera.

③ **ID No.** :
Set the ID number (0 ~ 255) of the installed external PTZ device.

④ **Protocol Type** :
Choose “NORMAL” protocol for our own brand camera.
Choose “P-D” protocol for PELCO-D protocol camera.

⑤ **Baud Rate** :
Set the baud rate of each channel (2400, 4800, 9600, 19200, 38400, 57600, 115200).

⑥ After setting, press “OK” and then press “APPLY” to confirm.



Detection

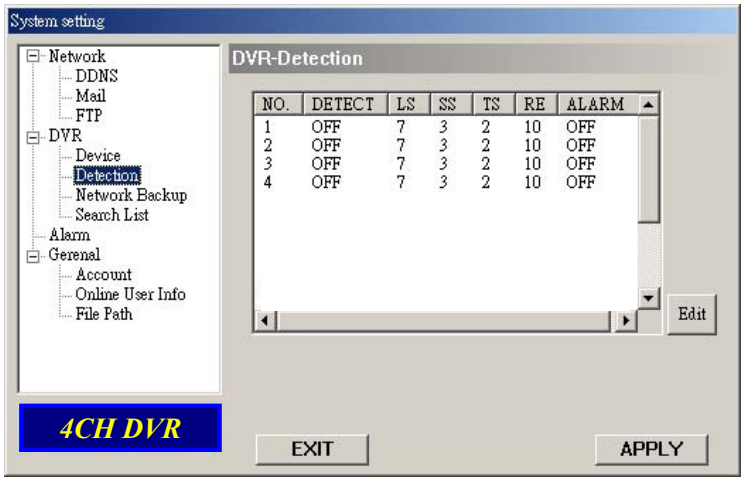
① Select the desired channel, and press “Edit” to enter the motion detection sensitivity and area setting box.

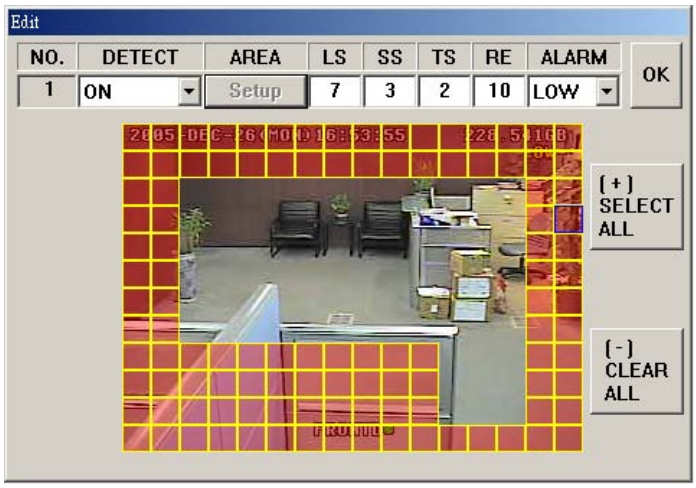
② **Motion Detection Sensitivity**: Set the detection sensitivity in 4 different adjustable factors.
LS: The sensitivity of comparing two different images. The smaller the value is, the higher sensitivity for motion detection.
SS: The sensitivity towards the size of the triggered object on the screen (the number of motion detection grids). The smaller the value is, the higher sensitivity for motion detection.
TS: The sensitivity towards how long the object staying in detection area to get triggered. The smaller the value is, the higher sensitivity for motion detection.
RE: The value of RE is a reference for detection. The bigger the value is, the higher sensitivity for motion detection.

③ **Alarm:**
Select LOW / HIGH for the alarm polarity.

④ **Motion Detection Area**:
Clicking the area by PC mouse, one can choose the motion area to be detected. The under-detection area is in transparent picture while the undetected area is in pink color.
*Click the “**Select All**” to activate the detection area as full area.
*Click the “**Clear All**” to clean the previously selected detection area.

⑤ After setting, press “OK” and then press “APPLY” to confirm.



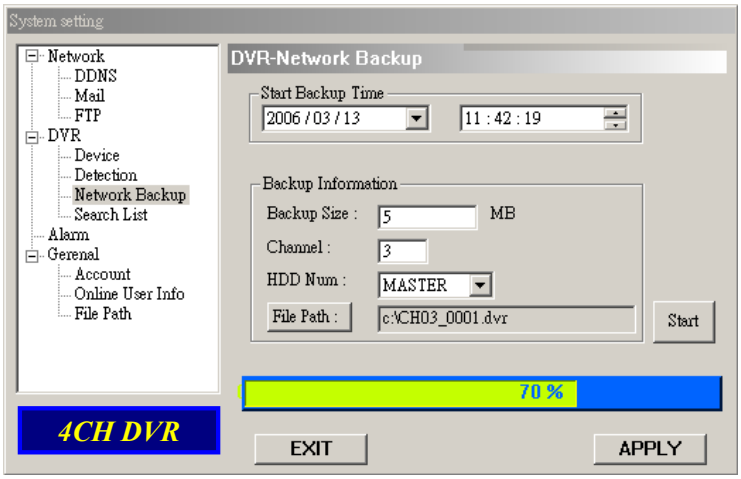


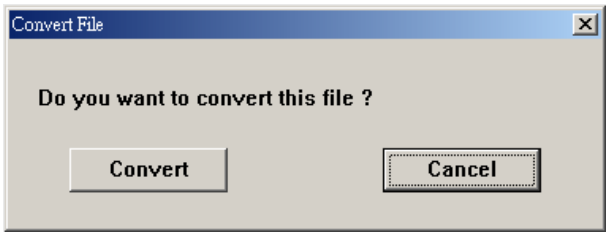
Note: Enable the motion detection function. When the motion is triggered, a “ ” icon will shown on the screen. And software AP will start recording automatically.

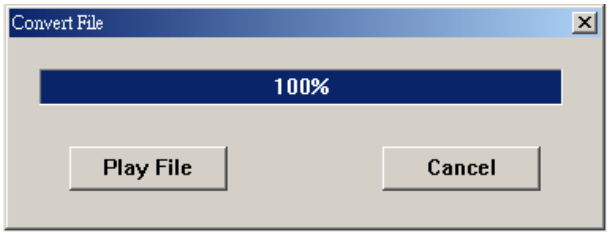
Network Backup

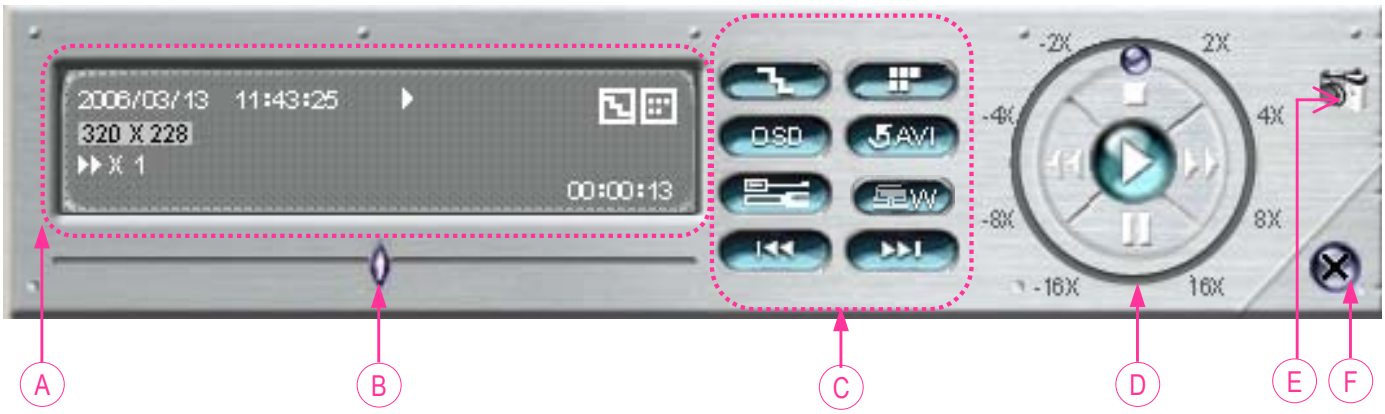
① Backup the recorded files to the PC from DVR via network.

② Enter the backup information → Press “Start” → Success → Covert → Play File.









A. **Playback Information**

B. **Time Progress Bar**

C. **Functions** :
(1) De-interlace
(2) De-blocking
(3) OSD
(4) AVI Convert
(5) Config. Setting
(6) Watermark
(7) Open Previous
(8) Open Next File

D. **Playback Control Buttons** :
Play / Stop / Pause / Fast Rewind / Fast Forward

E. **Snapshot**

F. **Close the Player**.

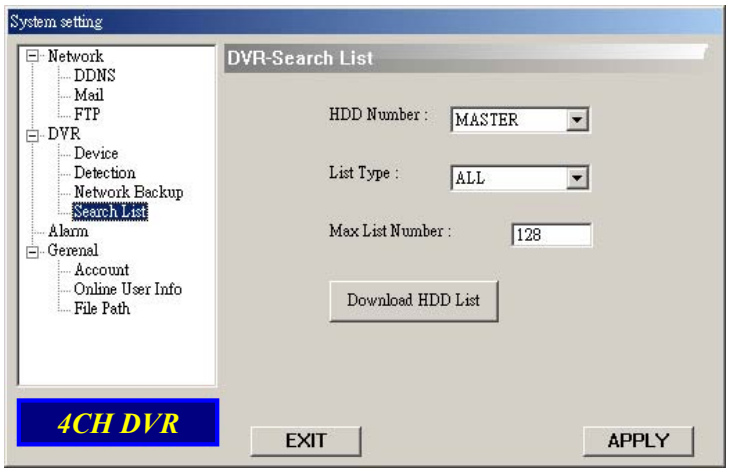
Search List

① **HDD Number**:
Select HDD (Master).

② **List Type**:
Select list type (All/ Manual/ System/ Alarm/ Motion).

③ **Max List Number**:
Maximum number of list (128) .

④ **Download HDD List**:
Press this button to start download the list.



Alarm

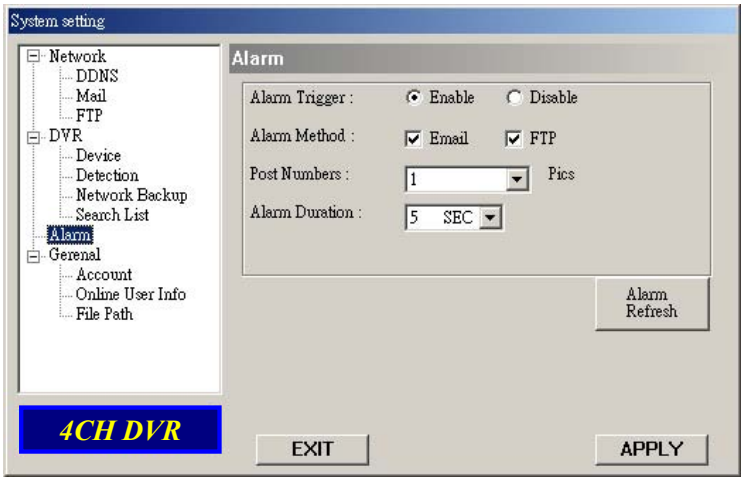
① **Alarm Trigger**:
Enable or disable Email and FTP notification function.

② **Alarm Method**:
Two notification methods
— Email and / or FTP.

③ **Post Number**:
Set MJPEG pictures (1-10 pictures).

④ **Alarm Duration**:
Set the duration time of motion trigger recording (5 sec., 10 sec., 20 sec., 40 sec.).

⑤ **Alarm Refresh**:
Clean the alarm message “ ” which is shown on the screen.

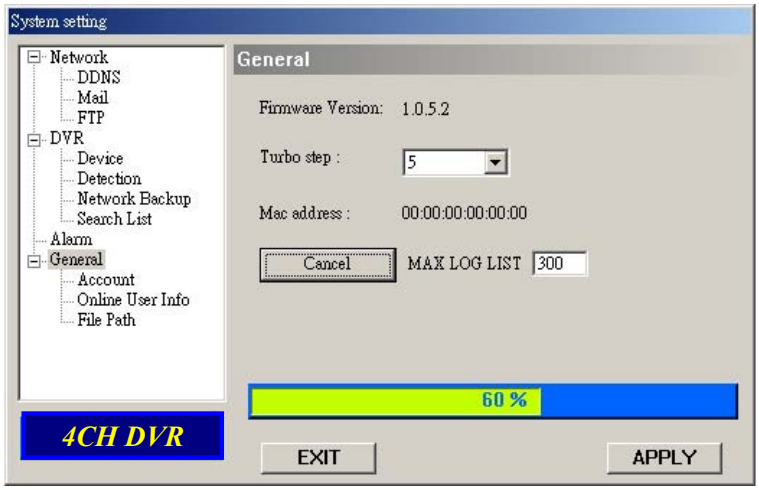


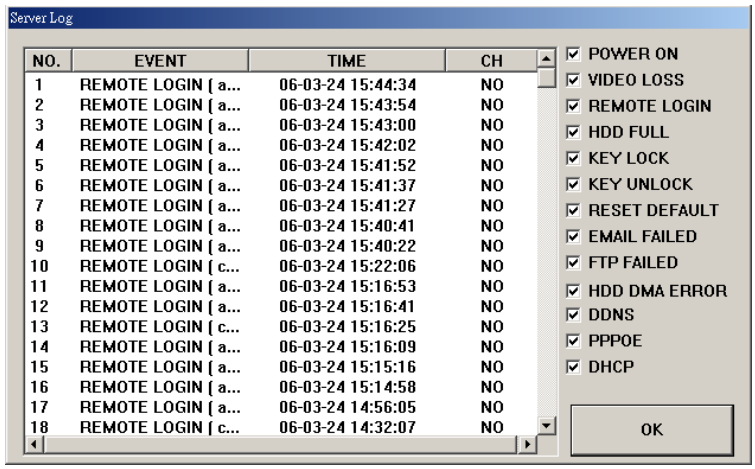
Note:

Email Notification:
MJPEG pictures will be made at your designated space set in “File Path”, plus an e-mail contained with the MJPEG pictures (1-10 pictures) to be sent to the address which is set under “Mail”.

FTP Notification:
MJPEG pictures will be made at your designated space set in “File Path”, plus a FTP file contained with the MJPEG pictures (1-10 pictures) to be sent to the address which is set under “FTP”.

General




Server Log
NO. EVENT TIME CH
1 REMOTE LOGIN (a... 06-03-24 15:44:34 NO
2 REMOTE LOGIN (a... 06-03-24 15:43:54 NO
3 REMOTE LOGIN (a... 06-03-24 15:43:00 NO
4 REMOTE LOGIN (a... 06-03-24 15:42:02 NO
5 REMOTE LOGIN (a... 06-03-24 15:41:52 NO
6 REMOTE LOGIN (a... 06-03-24 15:41:37 NO
7 REMOTE LOGIN (a... 06-03-24 15:41:27 NO
8 REMOTE LOGIN (a... 06-03-24 15:40:41 NO
9 REMOTE LOGIN (a... 06-03-24 15:40:22 NO
10 REMOTE LOGIN (c... 06-03-24 15:22:06 NO
11 REMOTE LOGIN (a... 06-03-24 15:16:53 NO
12 REMOTE LOGIN (a... 06-03-24 15:16:41 NO
13 REMOTE LOGIN (c... 06-03-24 15:16:25 NO
14 REMOTE LOGIN (a... 06-03-24 15:16:09 NO
15 REMOTE LOGIN (a... 06-03-24 15:15:16 NO
16 REMOTE LOGIN (a... 06-03-24 15:14:58 NO
17 REMOTE LOGIN (a... 06-03-24 14:56:05 NO
18 REMOTE LOGIN (c... 06-03-24 14:32:07 NO
POWER ON
VIDEO LOSS
REMOTE LOGIN
HDD FULL
KEY LOCK
KEY UNLOCK
RESET DEFAULT
EMAIL FAILED
FTP FAILED
HDD DMA ERROR
DDNS
PPPOE
DHCP
OK

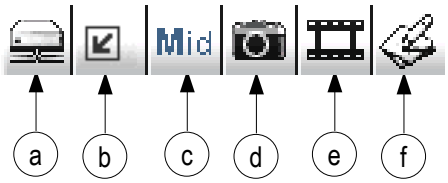
① Get the information of DVR firmware version in this window.

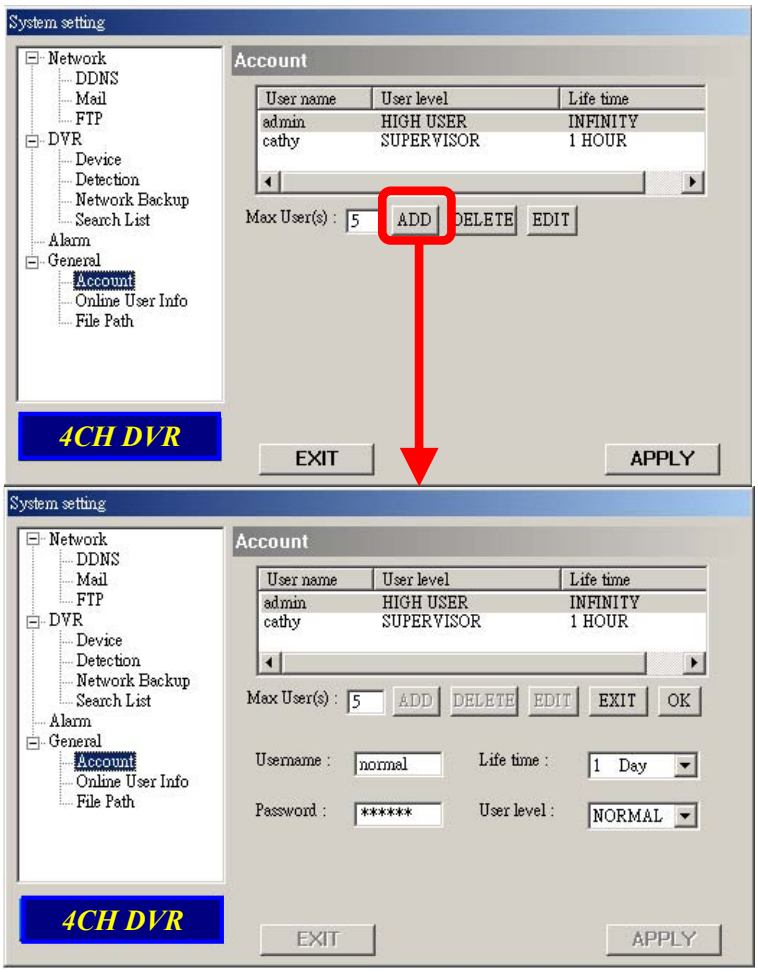
② **Select "Turbo Step" (1 - 10)**.
To speed up menu selecting or the control of the PTZ camera under video web server, users can activate "Turbo" function by clicking this button. Users are allowed to change the turbo steps from 1 to 10.
Ex. If the value of turbo step is "5" means that when user press one of the button up/down/left/right, one click is as clicking 5 times.

③ **Max Log List**:
Set the maximum number of log list.

④ **Server Log**:
Press "Server Log" button to enter the server log list window.

Account





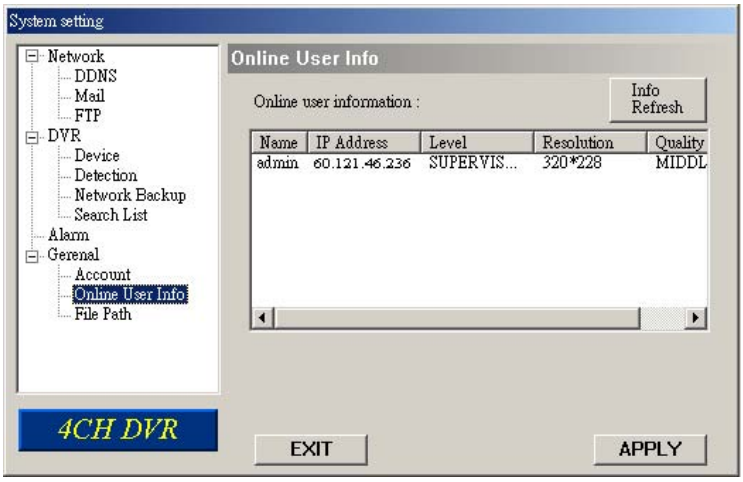
① Set up the user's account (Max 5 accounts) , password, life time, and authority level.
(Max 5 users on line at the same time).

② User's level:
SUPERVISOR —
Control all the functions ("a", "b", "c", "d", "e" and "f").
HIGH —
Control only "a", "b", "c", "d" and "e" functions, but cannot control "f" function.
NORMAL —
Control only "a", "d", and "e" functions, but cannot control "b", "c" and "f" functions.
GUEST —
Watch the image only. Only the "a" function can be used.

③ **Life time** :
According to different authority level, different accounts can stay online for different time period (1min, 5min, 10min, 1hour, 1day, infinity).

Online User Info

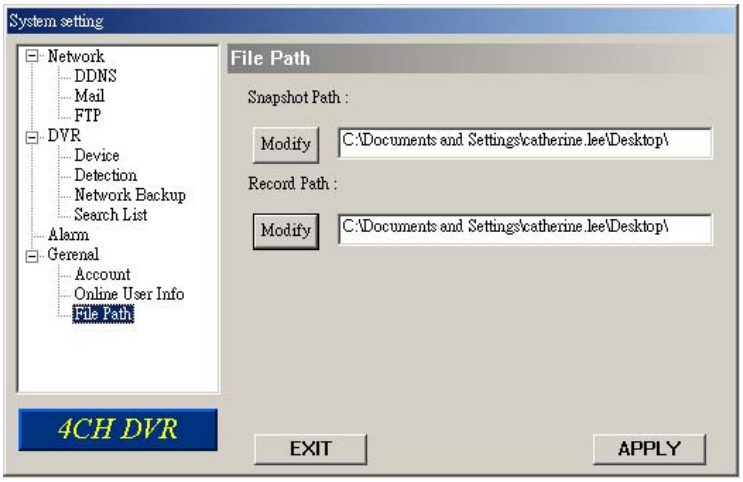
① Get all the current online users' information list (Name, IP Address, Authority Level, Resolution and Image Quality).



File Path

① **Snapshot Path**:
Assign the route for saving the snapshot picture.

② **Record Path**:
Assign the route for saving the manual recording file.



5.6 CONNECT TO AP VIA IE BROWSER

The DVR can be viewed over the network with a web browser. Please install licensed software AP first.

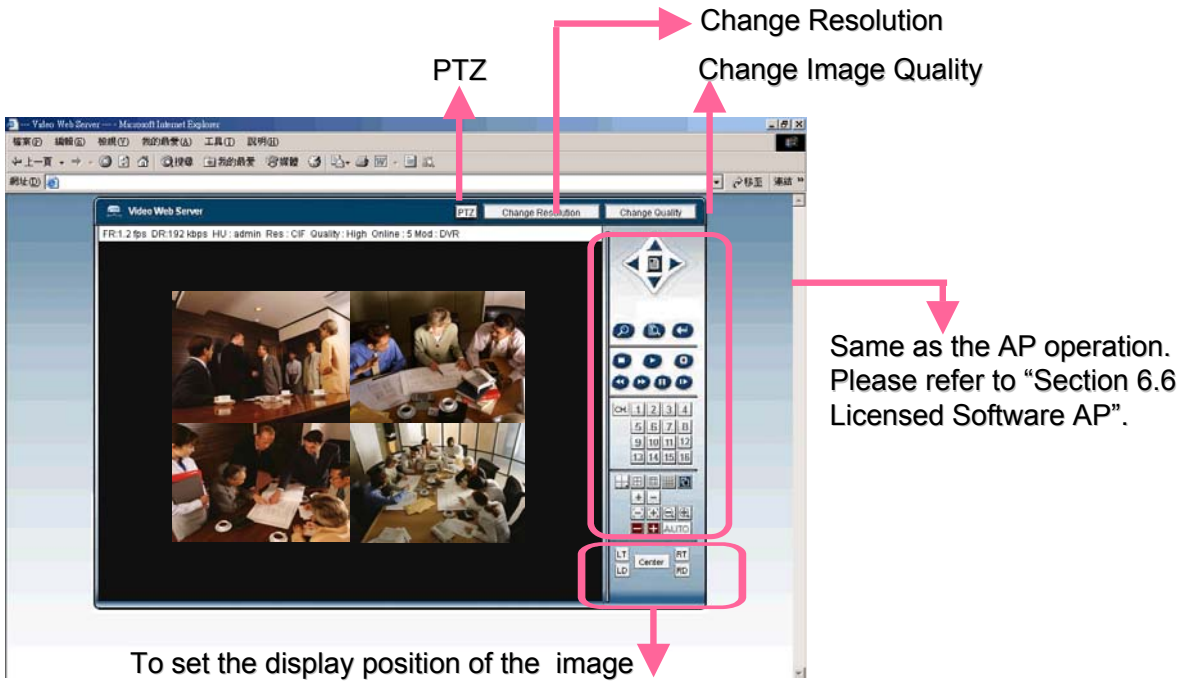
***** This function is suitable in both Windows 2000 and Windows XP *****

Step 1: Type in IP address into the URL address box and press enter.
Then you'll see the following page.

Note: If the TCP port number is not 80, see the example below.
IP address: 60.121.46.236 ; Port number: 888
→ Key in "**http://60.121.46.236 :888**" into the URL address box and press enter.

NOTE: Users can download the latest AP version from the website.
NOTE: Users can update the JAVA program from the website.

Step 2: Key in the "username" and "password" to login



6.1 FAQ

Please refer to the FAQ table below for easy trouble shooting. The table below describes some typical problems and also their solutions. Please check them before calling your DVR dealer.

PROBLEM	SOLUTION
No power	Check power cord connection.
	Confirm that there is power at the outlet.
Not working when pressing any button	Press any key and then enter the password to exit “Key Lock” mode.
Timer record is not working	Check if the “RECORD ENABLE” is set to “YES”.
No live video	Check camera video cable and connections.
	Check monitor video cable and connections.
	Confirm the camera is power supplied.
	Check the setting of camera lens.
No recorded video	Check if the HDD is installed and connected properly
DVR keeps rebooting	Users could align the power connector and HDD closely, or change another suitable HDD.
Detect HDD fail	Change another HDD for testing.
	Change another HDD cable for testing.
	Make sure HDD “Master”, “Slave” mode is correctly set.
Can’t detect USB thumb-drive	Change another USB thumb-drive to test.
Can’t view the DVR over the network with a web browser	Update the JAVA program Update the firmware of the software AP

APPENDIX #1 – INSTALL THE HDD

Carefully following the steps to ensure correct installation.

*** Note: Please set the HDD to “Master Mode” or “Single Mode” ***

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

1) Open the upper cover of the DVR and screw out the bracket.

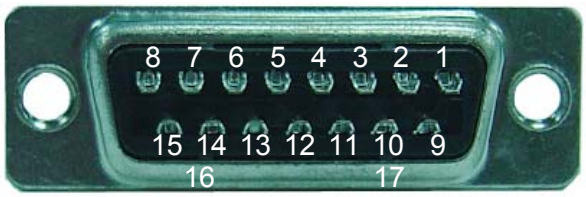
2) Screw HDD onto the HDD bracket. (Refer to Fig.1 & 2)

3) Connect the HDD to power connector and IDE BUS (make sure to align the HDD precisely to the pin connection)
And then screw the HDD bracket onto DVR base. (Refer to Fig. 3)

4) Close the upper cover of the DVR. (Refer to Fig. 4 & 5)

APPENDIX #2 – PIN CONFIGURATION

Solder Side of DSUB 15 PIN



PIN 1. **RS232-TX**
DVR can be controlled remotely by the keyboard of PC, using RS-232 serial communications signals.

PIN 2. **RS232-RX**
DVR can be controlled remotely by the keyboard of PC, using RS-232 serial communications signals.

PIN 3. ~ PIN 6. **ALARM INPUT**
To connect wire from ALARM INPUT (PIN 3 -- 6) to GND (PIN 9) connector, DVR will start recording and buzzer will be on.
When Menu/ Camera/ Alarm is set up to “Low” : When alarm input signal is “ Low ”, the unit starts to record and buzzer.
When Menu/ Camera/ Alarm is set up to “High” : When alarm input signal is “ High ”, the unit starts to record and buzzer.

PIN 7. **EXTERNAL ALARM NC**
Under normal operation COM connect with NC and disconnect from NO. But when alarm is triggered, COM disconnect with NC, and connect with NO. Attention: Voltage restrictions is under AC/DC 30V.

PIN 8. **EXTERNAL ALARM NO.**
Under normal operation COM disconnect with NO. But when Alarm triggered, COM connect with NO. Voltage restrictions is under AC/DC 30V.

PIN 9. **GND**
Signal GND.

PIN 10. **RS485-B**
DVR can be controlled remotely by the keyboard of PC, using RS-485 serial communications signals.

PIN 11. **RS485-A**
DVR can be controlled remotely by the keyboard of PC, using RS-485 serial communications signals.

PIN 12, 13. **PIN OFF**

PIN 14. **ALARM RESET**
To connect wire from ALARM RESET (PIN 14) to GND (PIN 9) connector, it can disable ALARM. An external signal to
ALARM RESET (PIN 14) can be used to reset both ALARM OUTPUT signal and DVR’s internal buzzer. When alarm has been triggered, signal becomes “Low”, and it will stop all alarm activities. Under normal operation, signal remains “High”.

PIN 15. **EXTERNAL ALARM COM**
Under normal operation COM disconnect with NO. But when alarm triggered, COM connect with NO. Attention: Voltage restrictions is under AC/DC 30V.

PIN 16, 17. **GND**
Earth GND

APPENDIX #3 – RS-232 Protocol

1) Use PC keyboard to simulate DVR keypad.
2) Data: REMOTE PROTOCOL use 8 bit data, 1 start bit, 1 stop bit.

FUNCTION	CODE	ASCII	FUNCTION	CODE	ASCCI
KEY_MENU	0x4D	M	KEY_CH1	0x31	1
KEY_ENTER	0x0D	ENTER	KEY_CH2	0x32	2
KEY_4 CUT	0x61	a	KEY_CH3	0x33	3
KEY_ZOOM	0x5A	z	KEY_CH4	0x34	4
KEY_9 CUT	0x62	b	KEY_CH5	0x35	5
KEY_16 CUT	0x63	c	KEY_CH6	0x36	6
KEY_SLOW	0x53	S	KEY_CH7	0x37	7
KEY_REC	0x72	r	KEY_CH8	0x38	8
KEY_LEFT	0x4C	L	KEY_CH9	0x39	9
KEY_UP	0x55	U	KEY_CH10	0x41	A
KEY_PLAY	0x50	P	KEY_CH11	0x42	B
KEY_DOWN	0x4E	N	KEY_CH12	0x43	C
KEY_RIGHT	0x52	R	KEY_CH13	0x44	D
KEY_POWER	0x57	W	KEY_CH14	0x45	E
KEY_KEY LOCK	0x4B	K	KEY_CH15	0x46	F
			KEY_CH16	0x47	G

APPENDIX #4 – RECORDING TIME TABLE

1) Recording time varies depending on the following factors:
   * Different camera quality
   * Different picture composition (such as frequency of the object movement)

Record mode	Quality	IPS	500GB record time(hour)	Record day
Frame	Best	30	436.9	18.2
		15	767.6	32.0
		7	1398.0	58.2
		3	2258.6	94.1
	High	30	552.8	23.0
		15	971.3	40.5
		7	1768.9	73.7
		3	2857.9	119.1
	Normal	30	726.2	30.3
		15	1276.0	53.2
		7	2323.9	96.8
		3	3754.5	156.4
	Basic	30	1173.7	48.9
		15	2062.2	85.9
		7	3755.9	156.5
		3	6068.1	252.8
CIF	Best	120	520.8	21.7
		60	915.1	38.1
		30	1666.7	69.4
		15	2692.7	112.2
	High	120	734.2	30.6
		60	1290.0	53.8
		30	2349.5	97.9
		15	3795.9	158.2
	Normal	120	966.2	40.3
		60	1697.6	70.7
		30	3091.8	128.8
		15	4995.2	208.1
	Basic	120	1338.7	55.8
		60	2352.1	98.0
		30	4283.8	178.5
		15	6921.0	288.4

APPENDIX #5 – COMPATIBLE USB BRAND

NOTE:

Please upgrade the firmware of the DVR to latest version to ensure the accuracy of following table.

Manufacturer	Model	Capacity
Transcend	JetFlash 110	256MB
Transcend	JetFlash 110	512MB
Kingston	DataTraveler DTI KUSBDTI/256FE	256MB
Kingston	DataTraveler DTI KUSBDTI/256FE	512MB
PQI	Cool Drive (U339)	256MB
PQI	Cool Drive (U339)	512MB
Apacer	HANDY STENO HF202	256MB
Apacer	HANDY STENO HF202	512MB
SanDisk	Cruzer Micro	128MB
SanDisk	Cruzer Micro	256MB
SanDisk	Cruzer Micro	512MB

APPENDIX #6 – COMPATIBLE HDD BRAND

NOTE: Please upgrade the firmware of the DVR to latest version to ensure the accuracy of following table.

Brand Name	Model	Capacity	Rotation
HITACHI	Deskstar HDS728080PLAT20	80GB	7200 rpm
HITACHI	Deskstar 180 GXP	120GB	7200 rpm
HITACHI	Deskstar 7K250, HDS722516VLAT20	160GB	7200rpm
HITACHI	HDS722516VLAT80	160GB	7200rpm
HITACHI	HDS722516DLAT80	160GB	7200rpm
HITACHI	Deskstar 7K250, HDS722525VLAT80	250GB	7200rpm
HITACHI	Deskstar 511DHT0021	500GB	7200rpm
IBM	Deskstar 120GXP (80GB)	80GB	7200 rpm
IBM	Deskstar 120GXP (120GB)	120GB	7200 rpm
Maxtor	DiamondMax 536DX(60GB) 4W060H4	60GB	5400rpm
Maxtor	DiamondMax Plus 9	80GB	7200 rpm
Maxtor	DiamondMax Plus 9, Model#6Y120L	120GB	7200 rpm
Maxtor	DiamondMax Plus 9, Model#6Y160L0	160GB	7200rpm
Maxtor	DiamondMax 10 6L120PO	120GB	7200rpm
Maxtor	DiamondMax 10 6L160R0	160GB	7200rpm
Maxtor	DiamondMax 10 6L200R0	200GB	7200rpm
Maxtor	DiamondMax 10 6L200PO	200GB	7200rpm
Maxtor	MaxLine Plus Ⅱ, Model#7Y250P0	250GB	7200rpm
Maxtor	DiamondMax 10 6L250R0-3	250GB	7200rpm
Seagate	Barracuda ATA IV, ST380021A	80GB	7200rpm
Seagate	Barracuda ATA V, ST3120023A	120GB	7200 rpm
Seagate	Barracuda 7200.7 Plus, ST3160023A	160GB	7200 rpm
Seagate	Barracuda 7200.8 ST3200826A	200GB	7200 rpm
Seagate	Barracuda 7200.8 ST3250826A	250GB	7200 rpm
Seagate	Barracuda 7200.8 ST3300831A/P	300GB	7200 rpm
Seagate	Barracuda 7200.8 ST3400832A/P	400GB	7200 rpm
Western Digital	Caviar WD1200BB-00CAA1	120GB	7200rpm
Western Digital	Caviar SE WD1200JB	120GB	7200rpm
Western Digital	Caviar SE WD1600JB	160GB	7200rpm
Western Digital	Caviar WD2000BB-00DWA0	200GB	7200rpm
Western Digital	CaviarSE WD2500JB	250GB	7200rpm